WILDLIFE RESTORATION – 2005-2006 activities

PEREGRINE FALCON RESTORATION

The peregrine falcon (*Falco peregrinus*) was extirpated as a breeding bird from the eastern U.S. by 1964. In the Midwest, peregrines formerly nested on cliffs along Lake Superior, Lake Michigan and the upper Mississippi River, plus suitable palisade areas. The upper Mississippi River area was the major historic nesting area for peregrines in the Midwest, with an estimated historic population of 30 – 35 pairs (Tordoff 1986). Most of Iowa's historic peregrine nesting occurred on the Mississippi River bluffs of northeastern Iowa in Allamakee, Clayton, Dubuque, and Clinton counties (Anderson 1907, Allert 1939, Pierce 1940), but nesting also occurred on the palisades of the Cedar River in Linn and Johnson counties (Bailey 1918) and along the Cedar River in Black Hawk County (Anderson 1907). A nest was also reported at the mouth of Beaver Creek in Polk County (DuMont 1931). Prior to reintroduction, the last documented nests were noted in 1955 and 1956 at two of six eyries in Allamakee County (Berger and Mueller 1969), although there were reports of a nest with two eggs in Allamakee County in 1964 and a nest with downy young at Blackhawk Point, Allamakee County in 1967 (Roosa and Stravers 1989). Pesticides, specifically DDT, were the primary cause for the dramatic decline in the peregrine population. Until 1998, the peregrine falcon was a federally and state listed endangered species. The bird was federally delisted in 1998, but remains on the state endangered species list.

In an effort to guide recovery of the peregrine falcon to the eastern U.S., an Eastern Peregrine Recovery Plan (EPRP) was developed. The overall goal of this plan was to establish a viable peregrine falcon population consisting of 175 breeding pairs, which is half of the pre-pesticide population. For each region of the eastern U.S., EPRP set a goal of 20-25 breeding pairs. Iowa falls under the Midwestern and Great Lakes regional plan (MGLRP). As part of the MGLRP, Iowa set a goal of establishing 5 breeding pair by the year 2000 with an ultimate goal of 10 breeding pair for a viable population. To achieve this goal, the Wildlife Diversity program planned to release 55 peregrines in the first 5 years. The "magic number" of birds released to get one breeding pair return is about 13. A maturing bird is expected to return to a release site within 2-3 years after release and establish a territory within that area. As a result, no release site will be used for more than 2 years to avoid confrontations with adult falcons and hack birds.

Iowa's Peregrine Falcon Restoration project began in 1989 with the release of 10 (2F,8M) birds in Cedar Rapids from the Telecom USA building. There was one mortality during this first release when a bird collided with a building. Releases continued for the second year at the Cedar Rapids release site with 13 falcons (3F,10M) in 1990. Two of these birds, 1 male and 1 female, died as a result of collisions with buildings. During the 1990 hacking process a subadult male (T6?- apparently from 1989 C.R. release) showed up in Cedar Rapids and regularly interacted with hacked birds.

In 1991, a second release site was selected for the third year of the project. A total of 19 birds (8F,11M) were released in 1991 at the First Baptist Foundation of the Elsie Mason Manor in

Des Moines. Similar to the 1991 Cedar Rapids release, a subadult male (T93- from 1990 Cedar Rapids release) appeared for a brief period of time. Little to no aggressive interactions were observed between this subadult and the hacked falcons. During 1991, peregrines were observed in Cedar Rapids, Davenport and Keokuk; however, no nests were located. A second release was not attempted at the Des Moines site during 1992 because two falcons attempted to nest on the American Republic Insurance building. The female (R13 – Kansas City 1990) laid 5 eggs total. One egg rolled off the alcove ledge and another was cracked. The 3 remaining eggs were laid in a different alcove and never incubated. The male at this site was X20 from the 1990 Cedar Rapids release. This was the first nesting attempt in Iowa in nearly 30 years.

Elsewhere in the state during 1992, falcon pairs established two additional territories. A male falcon in Cedar Rapids successfully attracted a mate in mid-May, but it was too late in the season for breeding. The pair engaged in courtship flights and investigated the nest box on the Firststar Bank building, but did not actually attempt to nest. In the Quad Cities, a pair appeared to be incubating eggs under the Centennial Bridge; however, there were no observations of feeding in late-June. The site was investigated in September, but no eggs, egg fragments, dead young or even a definitive nest site was found.

The third release site chosen for releases in 1992 (the 4th year of the project) was Davenport. However, the arrival of a falcon pair precluded this site from release since the territorial adults could potentially harm the young hacked birds. As a result, 8 birds (2F,6M) were released from the Laurel Building in Muscatine during 1992. A male Cedar Rapids bird (T95 – 1990) appeared after the hacked birds fledged. T95 engaged in mock combat with the young and occasionally harassed them at the hack site, but he did not harm any of the young. Of the 8 birds released at Muscatine, 2 died, both males.

In 1993, there was much falcon activity across the state. We had 2 successful peregrine falcon nests in Iowa. The falcon pair returning to the American Republic Insurance building was the same male (X20) and female (R13) who attempted to nest in 1992. Shortly after their return, the male (X20) was found decapitated after a three-bird territorial dispute. The "winning" male did not remain in the area. The female (R13) eventually mated successfully with a third male, T93 (from 1990 Cedar Rapids release), that came to Des Moines. This pair successfully hatched and raised 3 young. In early July, one of these young was found dead in the air conditioning unit of the American Republic Insurance Building.

The second successful nest occurred in Cedar Rapids. The male was identified as X64 (Des Moines – 1991) and the female as R49 (Des Moines – 1991). This pair laid 4 eggs and hatched 2. Of the two young, one died of exposure from stormy weather. The Iowa Falconer's Association donated a young male to foster into the nest. The adults accepted the "implant" along with the remaining female chick. Both young fledged successfully from the nest.

A third nesting occurred in Iowa during 1993 at the Centennial Bridge in Davenport. A pair was observed demonstrating nesting behavior, but that

soon changed about the time young should hatch. Closer observation of the nest site did not reveal young or eggs, however, a possible scrape was located along with falcon prey remains. A decomposed body of a female falcon (W24 – Kenosha, WI) was found trapped in the I-beam of the bridge. It is possible that this bird was the nesting female. Once she became trapped, the male abandoned the nest and attracted a new female (R95 – Colonnade, MN). By this time, it was too late in the season for nesting.

At Muscatine, a single male (C/M – Muscatine, 1992) returned to the site, but did not attract a mate. Because of the return of this bird, a second release was not made at this site.

During 1994, two falcon pairs nested successfully, marking the second year in a row for nest success. The birds at Firststar Bank in Cedar Rapids were the same, R49 and X64. They laid and hatched 4 eggs (2F,2M), but one female died soon after hatching. Another chick was treated for trichonomoniasis (Frounce) and released. All three young fledged successfully. The second successful nest was at the same site in Des Moines – the American Republic Insurance building. This pair was also the same birds from 1993, R13 and T93. Their first nesting attempt on the east side of the building was unsuccessful as one egg rolled off the ledge and the other 2 eggs were abandoned. The birds moved to the west side were they laid and hatched three young (1F,2M), all of which fledged successfully. The young female later died as a result of a collision with a building and one young male died of unknown causes. There was no known nesting attempts at either Davenport or Muscatine, however, a bird was observed during the winter at the Centennial Bridge in Davenport.

The original goal established by EPRP of 20-25 nesting pair was met and replaced with a new regional goal of 40 territorial pairs. This new goal was met and surpassed in 1993. By 1994, the midwestern region had 61 territorial pairs with 41 successfully nesting. As a result of meeting the regional goal, many states tapered off falcon releases. However, Iowa's goal of establishing 5 nesting pairs by the year 2000 did not look promising without further releases. Furthermore, many did not consider the Midwestern population recovered since there was very little nesting on natural eyries aside from cliffs in northern Minnesota and Michigan.

In order to address the need for more releases in Iowa, a Peregrine Falcon Recovery Team (PFRT) was formed to continue releases with the hope of establishing a sustainable peregrine population that requires little or no maintenance or manipulation. The (PFRT) hoped to continue urban releases in strategic locations along the Mississippi and inland along known flyways. The group would also evaluate the possibility of releasing birds along the cliffs of NE Iowa.

The 2 falcon pairs in Cedar Rapids and Des Moines nested successfully once again in 1995, marking the third consecutive successful nesting season in Iowa. The Cedar Rapids pair produced four eggs and hatched three young (1F,2M). All three young fledged successfully. One male was later found dead as a result of a collision. The Des Moines pair laid four eggs and hatched three females, all of which fledged successfully.

Iowa has been able to maintain its two nesting falcon pairs in Des Moines and Cedar Rapids. Regionally

during 1996, there were 87 territorial pairs of which 45 nested successfully. The Cedar Rapids pair (still the same male and female) again produced 3 birds (1F,2M), one egg did not hatch. All 3 birds fledged successfully. The Des Moines pair hatched 3 young, but one mysteriously disappeared leaving only 2 males to fledge successfully. This year marked the start of additional falcon releases with the hopes of achieving the goal of 5 breeding pair by the year 2000. The Peregrine Falcon Recovery Team, who generated the funding and volunteers to conduct the releases, spearheaded these releases. Mason City released 7 birds total (3F,4M), two of which (both females) came from Iowa City during the hacking process. Iowa City was in the process of hacking 3 birds (2F,1M), when a wild peregrine showed up at the release site and killed the male. The two remaining females were transported to Mason City to fledge for safety of the birds. There were no releases at Burlington due to mortality prior to placing the birds in the hack box.

The falcon project met with mixed success in 1997. Both falcon pairs returned to nest in Cedar Rapids and Des Moines, however, the Des Moines pair exhibited problems. The female laid her eggs in an alcove on the American Republic Insurance Building that did not have pea gravel in the bottom, so the eggs got wet. We put gravel in, but it was too late. The female abandoned the eggs. She did, however, lay 2 eggs in another alcove and 1 in yet another. To facilitate incubation, we moved the lone egg in with the 2, but later one was kicked out of the scrape, one was cracked and the other was abandoned. Two of the 6 eggs were sent for analysis to try and provide answers for the aberrant behavior of the Des Moines female. On the bright side, the Cedar Rapids pair laid 4 eggs and successfully fledged 2 (both males). Elsewhere in the state, the PFRT continued releases at the Mason City site with 3 young (1F,2M), one of which died from injuries received after colliding with a fence. Iowa City did not release birds in 1997, but Bob Anderson started his efforts of releasing birds on the natural eyries of NE Iowa. He released 4 birds in 2 batches of two (2F,2M) at a hack site situated on the cliffs overlooking the Iowa River near Bluffton. Two of the birds were equipped with radio transmitters, but were not tracked successfully for very long due to the topography interfering with the transmission of the signals.

Things were back on track for 1998. Both falcon pairs nested successfully in Cedar Rapids and Des Moines. The Des Moines pair produced 3 young (1F,2M) as did the Cedar Rapids pair (2F,1M). There was no evidence of additional eggs in Des Moines, however, there were 5 eggs in Cedar Rapids. As for other releases in the state, Mason City concluded its final peregrine release in 1998, sending off 15 falcons (4F,11M) without a hitch and Louisa had its first release with 4 young (3F,1M). Bob Anderson continued his cliff-site releases in 1998. However, he changed the release site from Bluffton to Effigy Mounds National Monument. The latter location is an exceptional bluff overlooking the Mississippi River. Two psuedo-rocked hack boxes were mounted on the bluff face. A total of nine birds (5F,4M) were released from the sight. Radio transmitters on the birds indicated no mortality up to dispersal. Unfortunately, two of the Effigy Mounds birds died during the spring of 1999 due

to a possible collision and a drowning.

The Peregrine Falcon Recovery Project had a slight change in direction during 1997. The decision was made to no longer allow urban releases, except for two grandfathered sites that already had the steps in motion for 1998 releases. Those grandfathered sites were Mason City and Louisa. The Mason City site releases were completed with the hacking of 15 falcons in 1998, and Louisa continued releases through 2000. The reasoning behind this decision was that the transition of falcons nesting in urban areas to natural cliff sites was not occurring as originally thought. In fact, some studies indicate that urban birds may actually be hindering wild nesting since falcons attract falcons. In an effort to return falcons to their historic nesting eyries in Iowa, the Iowa DNR has prioritized cliff-site releases.

Falcon production had mixed success again in 1999. On a down note, the Des Moines pair did not produce any young. The American Republic Insurance Building, where the birds nest, was getting a new roof. Rainy weather pushed construction into peak nesting time, causing too much disturbance for the breeding adults. Cedar Rapids was still a production stronghold with 3 young fledging in 1999. On a positive note, 1999 produced Iowa's third nesting falcon pair at a power smokestack in Lansing. The adults, both from Minnesota successfully produced 3 young (1F,2M). Falcons have been sighted in Mason City, but no nest attempts were documented.

Release efforts continued in Iowa during 1999. Louisa released 8 birds in their second release year. The Raptor Resource Project, headed by Bob Anderson, was awarded a grant by the Iowa DNR to continue release efforts at Effigy Mounds National Monument. He released 9 falcons in 1999. Bob was also granted a FWS permit to take chicks from smokestack nests and release them at cliff sites along the Mississippi River. A new cliff release site was added in 1999. This site, at Eagle Point Park in Dubuque, is also along the Mississippi River. Two rock-lined hack boxes were placed on a bluff overlooking the river. Volunteers released 21 falcon chicks (5F,16M) in 1999 from this site.

In 2000, for the first time in at least 3 decades, wild peregrines were produced on Mississippi River cliffs. At Queen's Bluff, in southeastern Minnesota, 1 young fledged successfully from parents which had been released in Iowa. The female was hacked from Mason City in 1998, and the male was hacked from Effigy Mounds in 1998. In all, there were 5 pairs of peregrines at cliff-sites along the Mississippi River. Thanks to efforts by Bob Anderson, the same pair that nested in 1999 in a nest-box at the Alliant Energy power plant smokestack near Lansing, now nested in a nest-box at a nearby cliff, where peregrines historically nested. They fledged 4 young (3M,1F), but the young female died post fledging. It is worth noting that, according to Bud Tordoff (Tordoff et al 2000), "these were the first young peregrines known to fledge from a cliff nest in the Mississippi River valley since the extirpation of the original population by DDT in the 1950s and 1960s."

Urban nest sites were also successful in 2000. At the American Republic Building in Des Moines, 9-year-old female 13R, nesting here for the eighth year, paired again with 10-year-old male 93T, his seventh year at the site. They produced 4 eggs and fledged 2 male young. In Cedar Rapids at the

Firstar Bank nest site, a 2-year-old female, *S/*5 (fledged in Des Moines in 1998) replaced female R49. She mated with 11-year-old male 64X, here for the eighth year. They produced 4 eggs and fledged 4 young (3M,1F). Besides the 3 successful nests, there was also a peregrine pair reported in April at the smokestack nest box at the Louisa Mid-American power plant. Also reported was a 1999 Louisa released male (wearing black/green band) frequenting the Mid-American Energy Co. building in Davenport, and a peregrine with a gold band on the right leg and a red/black band on the left leg was reported in Burlington on July 1 by Conservation Officer, Don Simonson.

Mississippi River peregrine releases continued in 2000, with 19 falcons hacked at the Dubuque cliff site and 6 male peregrines hacked at the Louisa power plant site. All told, there were 164 peregrines hacked from Iowa release sites from 1989-2002. Eighty-four of these birds were released along the Mississippi River, and 62 peregrines were released off limestone bluffs.

Year 2001 saw 5 Iowa peregrine territories. The same returning nesting pairs were identified at Des Moines, Cedar Rapids, and Lansing. The Des Moines pair produced 4 eggs and fledged 3 young (2M,1F). The young female later died after colliding with a window. There were 3 eggs laid and 3 young females fledged at Cedar Rapids. The Lansing pair attempted to nest unsuccessfully on a cliff, and finally laid 4 eggs (which did not hatch) in a nest box. An unidentified pair of peregrines attempted to nest beneath the Centennial Bridge in Davenport. The female is a sub-adult wearing a black/green band, and it is not known if the male is banded. Young falcons were heard food-begging beneath the bridge, but it is not known if any young fledged successfully (unverified report indicated one). A fifth pair of falcons held a nesting territory at the Louisa generating plant smokestack nest-box. The female hatched in 1999 from a smokestack box in Minneapolis, and the male has not been identified. The stage is set for 5 nesting pairs in 2002.

In 2002 six falcon territories were reported with five sites successfully fledging young. At Cedar Rapids four-year-old female *S/*5, nesting here for the third time, and thirteen-year-old male 64X (identified previously as 64T), here for the tenth year, produced four eggs, hatched three and fledged two females and a male.

The Des Moines pair once again laid three eggs on the east side of the American Republic Insurance bldg. However, the eggs disappeared as hatch date drew near. In late June an egg was discovered on the west side of building which hatched. A lone male was banded July 30 and successfully fledged in early August.

The Lansing cliff site was active in 2002 where the same pair successfully fledged two young, a male and a female. The adult female X/*D, fledged in 1998 at NSP Sherco, Becker, Minnesota and here for the first time, paired with five-year-old male *T/M, nesting here for the fourth year. The falcon box on the bluff, across from the Alliant Energy plant placed by Bob Anderson was a suitable backdrop as historic falcon banders gathered to assist and witness event. It had been 44 years since Dan Berger, Jack Oar, Jim Grier, Jack Oberg, Dave Seal, and Chuck Sindelar banded falcons at historic eyries. This year they were assisted by Dave Kester, banding two young.

In the Quad Cities the pair that previously occupied the Centennial Bridge nested in a falcon box placed by falconer, Tom Deckert. Three-year-old female 8/*E, hacked in 1999 at Muncie, Indiana paired with three-year-old male P/D, hacked in 1999 at Dubuque, Iowa. The MidAmerican Insurance building hosted three young, two females and a male in downtown Davenport. All successfully fledged with minimal intervention from humans.

A new falcon site came on line this year. A box affixed to the smokestack of the Louisa Generating Station near Muscatine was used. The female Z/V fledged in 1999 at NSP Riverside, Minneapolis, Minnesota. The tiercel has not been identified. One young male successfully fledged.

A sixth falcon territory occurred at the Holnam Cement Plant at Mason City. Falconer Lowell Washburn who hacked 25 young from the site between 1996 – 1998, reported a male was seen intermittently throughout the summer.

Also in 2002 eight young falcons were hacked at the Duane Arnold nuclear facility near Palo, Iowa. Bob Anderson with Raptor Research Project coordinated the placement of four young. Meanwhile four young at a smokestack box near Alma, Minnesota were stranded when an untimely death of the adult male occurred at that site. Plus, the female was discovered injured and unable to provide for young. The four were relocated to the Palo site and all eight successfully fledged.

In 2003 there were seven territories in Iowa. Mason City territory at Holnam Plant was inactive, but two new territories occurred in Iowa. Falcon activity was noted at nestbox at Alliant Plant near Chillicothe in Wapello Co. An adult peregrine was observed and a scrap was created in nestbox. At Quad Cities under I-80 bridge, a fledgling falcon was photographed and according to falconer Lowell Washburn an eyrie was presumed to have occurred under bridge. Adults were not identified at either site.

At Des Moines same adults fledged four young from second, NW alcove of American Republic building. At Cedar Rapids same adults fledged four young. At Louisa female Z/V and unknown male fledged three young.

Near Lansing the wild pair attempted to nest on a natural ledge. Two young hatched but had disappeared by banding time. Falconers Bob Anderson and Dave Kester believed raccoon predation destroyed nest. Raccoon sign was observed in area and access by land was possible.

Quad Cities female 8/*E and unidentified male produced four young under Centennial bridge. Young were relocated to natural bluff near Bluffton and hacked by Bob Anderson. All four survived and were observed throughout summer.

Iowa falcons produced at least 16 young this year making it a banner year for falcon production.

In 2004, Bob Anderson reported the pair at Lansing cliff, Allamakee County, hatched young but none were present at banding. A second, wild nesting pair was reported downstream by Dave Kester, on a Mississippi River cliff at Waukon Jct., Allamakee County. There were 2 eggs but no young produced. Female at this site was identified as Lora (48/E), hatched at Xcel Energy, Monticello, MN in 2003. Male is two-year-old 19/M Dairyland Cooperative at Alma, Wisconsin 2002. Anderson believed only male was incubating.

A scrape was present at nest box on smokestack at Alliant Energy Plant at Chillicothe, Wapello County, but no young produced. Two unidentified peregrines occupied site.

Danny Akers, a reliable birder, reported a peregrine pair copulating about one mile southwest of Guttenberg, Clayton County, on April 18, but despite subsequent searches in the area, no eyrie was discovered.

At state Capitol bldg in Des Moines female 39/E, NSP Riverside, Minneapolis 2003, has paired with 93T and is actively defending site from intruders.

At American Republic Insurance bldg. at Des Moines, Polk Co. Iowa, female 8/*T (produced three young) (Colonnade bldg. 2002) here for her first nesting attempt paired with fourteen-year-old male 93T (produced 27 young), his twelfth year at this site. Four eggs were laid and three males fledged. One immature male, D/06, was retrieved dead from collision with Ruan bldg. in July.

At Louisa Generating Plant, Louisa County, Jim Haack, Mid-American Energy, reports that five-year-old female Murphy Z/V(produced eight young), here for fourth year, and an unidentified male fledged four, three males and a female. Female 62/D recently was trapped inside a building and died of apparent heat exhaustion.

At US Bank bldg at Cedar Rapids, Linn Co. Iowa, six-year-old female ***S/ ***5 (produced 13 young) nesting here for fifth time and 13 year-old male 64X (produced 36), here for 12th year, produced four eggs, hatched four, and fledged three, one male and two females. Female 63/D was found dead. It was feared no young survived at this site as shortly after fledging, adults were sighted repeatedly but no young were seen.

At Davenport, Scott County, a pair once again nested at Centennial Bridge on eastern section of middle span. Three young were reported before fledging, but neither adult was identified. Also, no activity was reported at 2003 territory at I80 Bridge near Bettendorf.

It appears there is a new territory at Burlington, Des Moines County, beneath another Mississippi River Bridge. Former falconer, Lee Eberly, reported at least one, and possibly two peregrines were seen flying to and from under the bridge in mid-June, and vocalizations were heard 4 or 5 times. There has been peregrine activity noted at this site in the past. No peregrines were identified, and it is unknown if there was an active nest.

In summary, young fledged was down from 16 in 2003 to 13 in 2004 at four successful sites. There was evidence of peregrine territorial activity at ten sites.

In 2005 ten territories had seven successful fledgings with 21 young produced. At Firstar Bank (US Bank), Cedar Rapids, Linn County, Iowa, Jodeane Cancilla, Macbride Raptor Project, reports that seven-year-old female *S/*5 (produced 16 young), nesting here for the sixth year, and two-year-old male 78/E (produced 3), here for his first nesting, produced four eggs, hatched all four, and fledged three young, two males and a female.

American Republic, Des Moines, Polk County, Iowa. 15-year-old male 93T (31 young), his 13th year at this site, paired for the second year with four-year-old female Ellie b/g 8/*T, fledged in 2001 at Colonnade, Minneapolis, Minnesota. They

produced four eggs, four were banded, and fledged three young, two females and one male. One male was found dead, having fallen from eyrie. On July 22, female 8/*T was found with a wing injury that precludes further flying, although she lives on in captivity. Male 93T has sired 31 young in his long career here.

MidAmerican Energy Corporate Headquarters, Davenport, Scott County, Iowa. Dave Sebben reports two six-year-olds, female 8/*E, fledged at Muncie, Indiana, in 1999, paired with male P/D, fledged at Dubuque, Iowa, in 1999, produced one young. It was banded but died when hit by a car after fledging.

At Louisa, Louisa County, Iowa, Jim Haack, MidAmerica Energy, reports that an unidentified female and an unidentified male, both banded, fledged four young, two males and two females. This is the fourth year of successful nesting at this site.

Leo's Bluff, Waukon Junction, Allamakee County, Iowa. This is second year for this cliff site**.** Dave Kester and Bob Anderson report that two-year-old female Lora 48/E paired with three-year-old Brady 19/M, both here for the second year, and nested a half mile upstream from the 2004 site. They fledged two young, one each sex, from a cliff with no nest box, the first such cliff nest in Iowa in over 40 years.

Alliant Energy Lansing / Lansing cliff, Lansing, Allamakee County, Iowa. Bob Anderson, Raptor Resource Project, and Dave Kester report that an unidentified adult female with a b/r band paired with eight-year-old male Alpha *T/M (produced 14 young), nesting here for the seventh year. The site has had an interesting history. Falcons were first attracted to nest in a box on a nearby stack, where they fledged young in two seasons. The stack box was then removed and a box placed on the nearby cliff. Young were fledged in 2002. However, in 2003 and 2004, the falcons used a ledge instead of the box and lost their young to raccoon predation. This year, Kester and Anderson placed a new box on the stack, from which five young peregrines were fledged, three males and two females.

Alliant Energy Plant, Chillicothe, Wapello County, Iowa, Judi Johnson reports six-year-old female Z/V (produced 10 at Louisa and Chillicothe) and an unidentified male, judged by plumage to be two years old, produced four eggs and fledged two young. Female Z/V has relocated to this site from Louisa Generating Plant.

I80 Bridge, Quad Cities, Scott County, Iowa, had peregrine activity again this year. An adult pair is on site, but no young were found. A nest tray was installed under the bridge on Iowa side of center span of bridge. This bridge is 12 miles upstream from Centennial Bridge.

Mississippi bridge, Burlington, Des Moines County, Iowa. John Rutenbeck reports seeing and hearing two peregrines flying under the bridge in mid-June. Peregrine activity has been noted here in past years. There was no proof of a nest this year.

State Capitol, Des Moines, Polk County, Iowa, female Fast Track b/g 39/E, fledged in 2003 at NSP Riverside, Minneapolis, Minnesota, here in 2004 and early spring this year, was not seen through the nesting season. Adult male, T93, from downtown nest site has been soaring and perching on west side of Capitol, throughout summer.

Seven successful sites produced 21 young in 2005. There were three

additional sites with peregrine pairs for a total of ten territories this year.

There were some downturns in Iowa's peregrine population in 2006. However there were ten territories reported and five successful sites that produced eleven young. At Leo's Bluff near Waukon Junction, IA, both of the adult falcons and their young mysteriously disappeared according to bob Anderson. When he and Dave Kester rappelled into the eyrie, one pipped egg and fragments from three other eggs that indicated a normal hatch were discovered. However, there were no eyas falcons or defending adults. Other cliffs in that area of the river were searched on several occasions without finding either of the adult falcons. This is very strange and researchers are at a loss to explain what could have happened.

The adult falcons at the Lansing, IA power plant moved back to the nearby cliff this year, most probably due to a major construction project that took place near the stack. In past seasons, these falcons have lost their young around ten days of age to raccoons at this ledge. On 5/17/06, a large contingency of volunteers met at this cliff to initiate efforts to repel raccoons from the ledge site. However, they were too late. One set of raccoon tracks and eggshell fragments were discovered at the eyrie.

Another disappointment occurred in Des Moines where an unidentified female laid eggs at American Republic Insurance bldg. onto cold concrete. Four eggs were discovered and pea gravel added under them but they did not hatch.

On a brighter note at Cedar Rapids US Bank bldg. female *S/5* here for eighth year (produced 20 young) and three-year-old male 78/E (produced seven young) here for second year. Pair produced four young – three males and one female.

At MidAmerican Energy Corporate Headquarters, Davenport, Scott County, Iowa. Dave Sebben reports two seven-year-olds, female 8/*E, fledged at Muncie, Indiana, in 1999, paired with male P/D, fledged at Dubuque, Iowa, in 1999, produced two young.

At Louisa Generating Station, Jim Haack, MidAmerica Energy, reports that an unidentified female and an unidentified male, both banded, fledged two females and one male. There was one dead young in box. This is the fifth year of successful nesting at this site.

Alliant Energy Plant, Chillicothe, Wapello County, Iowa, Judi Johnson reports seven-year-old female Z/V (produced 10 at Louisa and Chillicothe) and an unidentified male and fledged one young.

At Great River Bridge local birder, Hal Geren, reported two adult and one young throughout July.

At I 280 Bridge at Quad Cities, local birder Kelly McKay reported pair of falcons on west pier (Iowa side) of bridge. Two eggs on concrete were discovered and placed in a nest tray with pea gravel. There was no further activity reported at this site.

At I 80 bridge in Quad Cities a pair of peregrines were defending the bridge but no eggs were discovered. Nest tray on Iowa side of bridge had not been used.

In summary there were ten territories with five successful pairs and eleven young produced in 2006.

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Table 6.1. Peregrine falcons released in Iowa as part of the Midwestern Peregrine Recovery Project.

Year	Location	USFWS #	Color Band	Sex	Comments
1989	Cedar Rapids	81622146	Y90	M	
1989	Cedar Rapids	81622160	T61	M	
1989	Cedar Rapids	81622161	T62	M	
1989	Cedar Rapids	81622162	T63	M	
1989	Cedar Rapids	81622163	T64	M	
1989	Cedar Rapids	81622164	T65	M	
1989	Cedar Rapids	81622165	T66	M	
1989	Cedar Rapids	81622166	T67	M	
1989	Cedar Rapids	87742570	V53	F	Died - collision
1989	Cedar Rapids	98720914	V52	F	
1990	Cedar Rapids	1807-29412	V81	F	
1990	Cedar Rapids	1807-29413	V82	F	Died - collision
1990	Cedar Rapids	1807-29423	V93	F	Killed by PF in 1991
1990	Cedar Rapids	2206-13819	T93	M	
1990	Cedar Rapids	2206-13820	T94	M	
1990	Cedar Rapids	2206-13821	T95	M	
1990	Cedar Rapids	2206-13822	T96	M	
1990	Cedar Rapids	2206-13823	T97	M	
1990	Cedar Rapids	2206-13825	T99	M	
1990	Cedar Rapids	2206-13826	X03	M	Died - collision

1990	Cedar Rapids	2206-13827	X04	M	
1990	Cedar Rapids	2206-13835	X17	M	
1990	Cedar Rapids	2206-13836	X20	M	Killed – fight w/ PF in ‘93
1991	Des Moines	1807-29450	R28	F	
1991	Des Moines	1807-29451	R29	F	Died in chimney
1991	Des Moines	1807-29455	R33	F	Killed by PF in 1994
1991	Des Moines	1807-29461	R40	F	
1991	Des Moines	1807-29467	R47	F	Died in ’93 – unknown
1991	Des Moines	1807-29468	R48	F	
1991	Des Moines	1807-29469	R49	F	
1991	Des Moines	1807-29472	R52	F	
1991	Des Moines	2206-13715	Z12	M	
1991	Des Moines	2206-13723	Z23	M	Died – collision
1991	Des Moines	2206-13724	Z24	M	Died – collision
1991	Des Moines	2206-13725	Z25	M	Suspect dead
1991	Des Moines	2206-13872	X59	M	
1991	Des Moines	2206-13873	X62	M	Died – unknown
1991	Des Moines	2206-13874	X63	M	Euthanized - collision
1991	Des Moines	2206-13875	X64	M	Tiercel at Cedar Rapids
1991	Des Moines	2206-13876	X65	M	Suspect dead
1991	Des Moines	2206-13884	Z05	M	
1991	Des Moines	2206-13900	Z07	M	
1992	Muscatine	1807-34867	2-Feb	F	
1992	Muscatine	1807-34868	3-Feb	F	
1992	Muscatine	2206-18428	CH	M	
1992	Muscatine	2206-18430	CM	M	Died in ’96 - unknown
1992	Muscatine	2206-18431	CN	M	
1992	Muscatine	2206-18433	CR	M	Died – powerline
1992	Muscatine	2206-18434	CS	M	Died – injury
1992	Muscatine	2206-18435	CT	M	
1993	No releases	--	--	--	
1994	No releases	--	--	--	
1995	No releases	--	--	--	
1996	Mason City	2206-35803	P*/X	M	
1996	Mason City	2206-35804	P*/W	M	
1996	Mason City	2206-35805	P*/S	M	
1996	Mason City	2206-35807	P*/U	M	
1996	Mason City	1807-53901	5*/T	F	Relocated from Iowa City
1996	Mason City	1807-53902	5*/U	F	Relocated from Iowa City

1996	Mason City	1807-53905	5*/S	F	
1996	Iowa City	2206-35806	P*/T	M	Killed by wild peregrine
1997	Mason City	1807-53912	G*/8*	F	
1997	Mason City	2206-35822	H*/E	M	Died - collision
1997	Mason City	2206-35823	R*/Y	M	
1997	Bluffton	1807-53912	4*/G	F	
1997	Bluffton	1807-53913	7*/M	F	
1997	Bluffton	2206-35824	R*/W	M	
1997	Bluffton	2206-35825	9/P*	M	
1998	Effigy Mounds	1807-53924	R*/9*	F	
1998	Effigy Mounds	1807-53925	R*/5*	F	
1998	Effigy Mounds	1807-53926	R*/6*	F	
1998	Effigy Mounds	1807-53927	R*/7*	F	
1998	Effigy Mounds	2206-35835	5*/G	M	
1998	Effigy Mounds	2206-35836	E*/W	M	
1998	Effigy Mounds	2206-35837	E*/U	M	Died – collision?
1998	Effigy Mounds	2206-35838	H*/Y	M	
1998	Effigy Mounds	1807-61977	C*/E*	F	Died - drown
1998	Louisa	1807-53917	H/7	F	
1998	Louisa	1807-53928	R*/8*	F	
1998	Louisa	1807-53929	C*/K*	F	
1998	Louisa	2206-28908	H*/T	M	
1998	Mason City	1807-53916	*7/K	M	
1998	Mason City	2206-35721	*M/B	M	Rehab bird from Michigan
1998	Mason City	2206-35760	7*/3*	M	Rehab bird from Rockwell
1998	Mason City	2206-35831	*H/U	M	
1998	Mason City	2206-35832	*H/P	M	
1998	Mason City	2206-35833	*H/R	M	
1998	Mason City	2206-35834	3*/4*	M	
1998	Mason City	2206-28904	D*/U	M	
1998	Mason City	2206-29805	D*/T	M	
1998	Mason City	2206-29806	D*/S	M	
1998	Mason City	2206-29807	3*/5*	M	
1998	Mason City	1807-61906	*5/M	F	Rehab bird from Michigan
1998	Mason City	1807-69756	*E/R*	F	Rehab bird from Chicago –reband (old P/D 2206-35707)
1998	Mason City	1807-53930	C*/M*	F	

1998	Mason City	1807-53931	C*/P*	F	
1999	Effigy Mounds	2206-35839	C/Y	M	
1999	Effigy Mounds	2206-35840	E/Y	M	
1999	Effigy Mounds	2206-35841	E/K	M	
1999	Effigy Mounds	2206-35842	D/E	M	
1999	Effigy Mounds	2206-35843	D/T	M	
1999	Effigy Mounds	2206-35844	D/P	M	
1999	Effigy Mounds	2206-35846	E/S	M	
1999	Effigy Mounds	1807-53918	X/B	F	
1999	Effigy Mounds	1807-53919	W/Y	F	
1999	Dubuque	--	--	-	Rehab bird
1999	Dubuque	1807-77707	*E/*X	F	
1999	Dubuque	1807-77708	*E/*Y	F	
1999	Dubuque	1807-77709	Z/*K	F	
1999	Dubuque	1807-77710	2/*L	F	
1999	Dubuque	2206-28920	M/K	M	
1999	Dubuque	2206-28922	P/D	M	
1999	Dubuque	2206-28923	P/Y	M	
1999	Dubuque	2206-28924	*3/*Y	M	
1999	Dubuque	2206-47607	H/P	M	
1999	Dubuque	2206-47608	G/V	M	
1999	Dubuque	2206-47610	M/D	M	
1999	Dubuque	2206-47611	L/X	M	
1999	Dubuque	2206-47612	R/S	M	
1999	Dubuque	2206-47613	N/V	M	
1999	Dubuque	2206-47614	U/E	M	
1999	Dubuque	2206-47615	N/B	M	
1999	Dubuque	2206-47616	U/Z	M	
1999	Dubuque	2206-47617	R/X	M	
1999	Dubuque	2206-47618	G/H	M	
1999	Dubuque	1807-53946	I/*B	F	
1999	Louisa	--	--	-	Rehab bird
1999	Louisa	--	--	-	Rehab bird
1999	Louisa	2206-47619	H/M	M	
1999	Louisa	2206-47620	M/U	M	
1999	Louisa	2206-28917	3*/*8	M	
1999	Louisa	2206-28918	9*/A*	M	

1999	Louisa	2206-28919	3*/U*	M	
1999	Louisa	1807-53945	P*/1*	F	
2000	Louisa	1807-77704	G/T	M	
2000	Louisa	2206-47604	07/H	M	
2000	Louisa	2206-47605	08/H	M	
2000	Louisa	2206-47606	09/H	M	
2000	Louisa	2206-47628	10/H	M	
2000	Louisa	2206-28925	N/N	M	
2000	Dubuque	1807-53920	3/*V	F	
2000	Dubuque	1807-53921	1/*P	F	
2000	Dubuque	1807-53922	4/*V	F	
2000	Dubuque	1807-53923	7/*1	F	
2000	Dubuque	1807-53932	0/*A	F	
2000	Dubuque	1807-53933	4/*B	F	
2000	Dubuque	2206-28909	K/B	M	
2000	Dubuque	2206-35847	N/P	M	
2000	Dubuque	--	--	-	Rehab bird
2000	Dubuque	--	--	-	Rehab bird
2000	Dubuque	2206-35848	S/E	M	
2000	Dubuque	2206-35849	U/W	M	
2000	Dubuque	2206-35850	00/H	M	
2000	Dubuque	2206-47622	01/H	M	
2000	Dubuque	2206-47623	03/H	M	
2000	Dubuque	2206-47624	02/H	M	
2000	Dubuque	2206-47625	04/H	M	
2000	Dubuque	2206-47626	05/H	M	
2000	Dubuque	2206-47627	06/H	M	
2002	Palo	1807-77717	6/*3	F	
2002	Palo	2206-62813	60/K	M	
2002	Palo	2206-62803	61/K	M	
2002	Palo	2206-62812	62/K	M	
2002	Palo	1807-91977	46/B	F	wild bird from Alma
2002	Palo	1807-91978	47/B	F	wild bird from Alma
2002	Palo	2206-47682	19/M	M	wild bird from Alma
2002	Palo	2206-47683	20/M	M	wild bird from Alma
2003	Bluffton	2206-69873	69/P	M	Wild bird from Centennial Bridge
2003	Bluffton	1807-62159	43/E	F	Wild bird from Centennial Bridge
2003	Bluffton	1807-62160	44/E	F	Wild bird from

2003	Bluffton	1807-62161	45/E	F	Centennial Bridge Wild Bird from Centennial Bridge

Table 6.2 Young peregrine falcons produced from Iowa nesting pairs.

Year	Location	USFWS#	Young	Sex	Falcon	Teircel	Comments
1993	Cedar Rapids	2206-18514	0/2	M	-	-	Foster from breeder
1993	Cedar Rapids	Unbanded			R49 Des Moines '91	X64 Des Moines '91	Died
1993	Cedar Rapids	2206-18557	2/B	M	R49 Des Moines '91	X64 Des Moines '91	
1993	Des Moines	1807-49715	7/3	F	R13 Kansas City 1991	T93 Cedar Rapids '90	
1993	Des Moines	1807-49716	7/4	F	R13 Kansas City 1991	T93 Cedar Rapids '90	
1993	Des Moines	2206-18556	2/A*	M	R13 Kansas City 1991	T93 Cedar Rapids '90	Died
1994	Cedar Rapids	1807-49787	E/C	F	R49 Des Moines '91	X64 Des Moines '91	
1994	Cedar Rapids	2206-25422	L/6*	M	R49 Des Moines 1991	X64 Des Moines '91	
1994	Cedar Rapids	2206-25423	K/6*	M	R49 Des Moines 1991	X64 Des Moines '91	
1994	Cedar Rapids	Unbanded	-	F	R49 Des Moines 1991	X64 Des Moines '91	Died
1994	Des Moines	1807-49788	E/D	F	R13 Kansas City 1991	T93 Cedar Rapids '90	Died - collision
1994	Des Moines	2206-25419	M/6*	M	R13 Kansas City 1991	T93 Cedar Rapids '90	
1994	Des Moines	2206-25420	P/6*	M	R13 Kansas City 1991	T93 Cedar Rapids '90	Died- unknown
1995	Cedar Rapids	1807-53830	E/X	F	R49 Des Moines 1991	X64 Des Moines '91	

Year	Location	USFWS#	Young	Sex	Falcon	Teircel	Comments
1995	Cedar Rapids	1807-53829	3/U*	M	R49 Des Moines 1991	X64 Des Moines '91	
1995	Cedar Rapids	2206-25460	3/V*	M	R49 Des Moines 1991	X64 Des Moines '91	Died - collision
1995	Des Moines	1807-53827	A/L*	F	R13 Kansas City 1991	T93 Cedar Rapids '90	
1995	Des Moines	1807-53828	D/H	F	R13 Kansas City 1991	T93 Cedar Rapids '90	
1995	Des Moines	1807-53832	D/T	F	R13 Kansas City 1991	T93 Cedar Rapids '90	
1996	Cedar Rapids	1807-53959	Y*/3	F	R49 Des Moines 1991	X64 Des Moines '91	
1996	Cedar Rapids	2206-35884	E*/4	M	R49 Des Moines 1991	X64 Des Moines '91	
1996	Cedar Rapids	2206-35885	T*/A	M	R49 Des Moines 1991	X64 Des Moines '91	
1996	Des Moines	2206-35886	T*/B	M	R13 Kansas City 1991	T93 Cedar Rapids '90	
1996	Des Moines	2206-35887	T*/C	M	R13 Kansas City 1991	T93 Cedar Rapids '90	
1997	Cedar Rapids	7206-35749	Z/4	M	R49 Des Moines 1991	X64 Des Moines '91	
1997	Cedar Rapids	2206-35750	Y/8	M	R49 Des Moines 1991	X64 Des Moines '91	
1997	Des Moines	None	--	--	R13 Kansas City 1991	T93 Cedar Rapids '90	
1998	Cedar Rapids	1807-69736	S/4	F	R49 Des Moines 1991	X64 Des Moines '91	

Year	Location	USFWS#	Young	Sex	Falcon	Teircel	Comments
1998	Cedar Rapids	1807-69737	E/V*	M	R49 Des Moines 1991	X64 Des Moines '91	Injured - Topeka
1998	Cedar Rapids	1807-69738	S/3	F	R49 Des Moines 1991	X64 Des Moines '91	
1998	Des Moines	2206-41002	S/5	F	R13 Kansas City 1991	T93 Cedar Rapids '90	
1998	Des Moines	2206-41003	E/X	M	R13 Kansas City 1991	T93 Cedar Rapids '90	
1998	Des Moines	2206-41004	E/Y	M	R13 Kansas City 1991	T93 Cedar Rapids '90	Euthanized – extensive Frounce
1999	Cedar Rapids	1807-61965	F*/U*	F	R49 Des Moines 1991	X64 Des Moines '91	
1999	Cedar Rapids	1807-61966	E*/W*	F	R49 Des Moines 1991	X64 Des Moines '91	
1999	Cedar Rapids	1807-61983	E*/V*	F	R49 Des Moines 1991	X64 Des Moines '91	found in Nebraska 2005 at TRC
1999	Des Moines	None	--	--	R13 Kansas City 1991	T93 Cedar Rapids '90	Construction at nest site interferred
1999	Lansing	1807-69782	Z/D	F	6*/V Minneapolis '97	T*/M Prairie Isle MN '97	
1999	Lansing	2206-41087	E/H	M	6*/V Minneapolis '97	T*/M Prairie Isle MN '97	
1999	Lansing	2206-41088	V/B	M	6*/V Minneapolis '97	T*/M Prairie Isle MN '97	
2000	Lansing	1807-77669	3/*7	F	6*/V Minneapolis '97	T*/M Prairie Isle MN '97	Found dead inside smokestack
2000	Lansing	2206-28979	K/D	M	6*/V Minneapolis '97	T*/M Prairie Isle MN '97	
2000	Lansing	2206-	G/D	M	6*/V	T*/M	

Year	Location	USFWS#	Young	Sex	Falcon	Teircel	Comments
		28980			Minneapolis '97	Prairie Isle MN '97	
2000	Lansing	2206-28981	M/C	M	6*/V Minneapolis '97	T*/M Prairie Isle MN '97	
2000	Cedar Rapids	1807-34737	1/*9	F	*S/*5 Des Moines 1998	X64 Des Moines '91	
2000	Cedar Rapids	1807-34738	2/*T	M	*S/*5 Des Moines 1998	X64 Des Moines '91	
2000	Cedar Rapids	2206-62744	21/H	M	*S/*5 Des Moines 1998	X64 Des Moines '91	
2000	Cedar Rapids	2206-62745	20/H	M	*S/*5 Des Moines 1998	X64 Des Moines '91	
2000	Des Moines	2206-62746	22/H	M	R13 Kansas City 1991	T93 Cedar Rapids 1990	
2000	Des Moines	2206-62746	22/H	M	R13 Kansas City 1991	T93 Cedar Rapids 1990	
2001	Des Moines	1807-35917	55/A	F	R13 Kansas City 1991	T93 Cedar Rapids 1990	Died after window collision
2001	Des Moines	2206-62842	19/K	M	R13 Kansas City 1991	T93 Cedar Rapids 1990	
2001	Des Moines	2206-62843	20/K	M	R13 Kansas City 1991	T93 Cedar Rapids 1990	
2001	Cedar Rapids	1807-35918	56/A	F	*S/*5 Des Moines 1998	X64 Des Moines '91	
2001	Cedar Rapids	1807-35919	57/A	F	*S/*5 Des Moines 1998	X64 Des Moines '91	
2001	Cedar Rapids	1807-35920	58/A	F	*S/*5 Des Moines 1998	X64 Des Moines '91	
2002	Quad Cities	2206-47678	12/M	M	8/*E Muncie, IN 1999	P/D Dubuque 1999	

Year	Location	USFWS#	Young	Sex	Falcon	Teircel	Comments
2002	Quad Cities	1807-91965	35/B	F	8/*E Muncie, IN 1999	P/D Dubuque 1999	
2002	Quad Cities	1807-91966	36/B	F	8/*E Muncie, IN 1999	P/D Dubuque 1999	
2002	Cedar Rapids	1807-91959	28/B	F	*S/*5 Des Moines 1998	X64 Des Moines ‘91	
2002	Cedar Rapids	1807-91958	29/B	F	*S/*5 Des Moines 1998	X64 Des Moines ‘91	
2002	Cedar Rapids	2206-47671	05/M	M	*S/*5 Des Moines 1998	X64 Des Moines ‘91	
2002	Louisa G. Station	2206-47673	06/M	M	Z/V Riverside, MN 1999	?	
2002	Des Moines	2206-47673	07/M	M	R13 Kansas City 1991	T93 Cedar Rapids 1990	
2002	Lansing bluff	2206-62877	16/M	M	6*/V Minneapolis ‘97	T*/M Prairie Isle MN ’97	
2002	Lansing bluff	1807-91975	44/B	F	6*/V Minneapolis ‘97	T*/M Prairie Isle MN ’97	
2003	Cedar Rapids	220-649456	83/M	M	S*/5* Des Moines ‘98	64X Des Moines ‘91	
2003	Cedar Rapids	220-649457	84/M	M	S*/5* Des Moines ‘98	64X Des Moines ‘91	
2003	Cedar Rapids	220-649458	85/M	M	S*/5* Des Moines ‘98	64X Des Moines ‘91	
2003	Cedar Rapids	987-40129	01/D	F	S*/5* Des Moines ‘98	64X Des Moines ‘91	
2003	Louisa	987-40130	07/D	F	Z/V Riverside, MN ‘99	Unknown	

Year	Location	USFWS#	Young	Sex	Falcon	Teircel	Comments
2003	Louisa	987-40131	08/D	F	Z/V Riverside, MN '99	Unknown	
2003	Louisa	220-649459	86/M	M	Z/V Riverside, MN '99	Unknown	
2003	Des Moines	987-40141	92/B	F	R13 Kansas City '91	93T Cedar Rapids '90	Found dead in July at 801 Grand
2003	Des Moines	987-40142	93/B	F	R13 Kansas City '91	93T Cedar Rapids '90	
2003	Des Moines	2206-494468	14M	M	R13 Kansas City '91	93T Cedar Rapids '90	
2003	Des Moines	2206-494469	15M	M	R13 Kansas City '91	93T Cedar Rapids '90	
2003	Quad Cities	1807-62159	43/E	F	8/E* Muncie, IN '99	Unknown	Hacked at Bluffton
2003	Quad Cities	1807-62160	44/E	F	8/E* Muncie, IN '99	Unknown	Hacked at Bluffton
2003	Quad Cities	1807-62161	45/E	F	8/E* Muncie, IN '99	Unknown	Hacked at Bluffton
2003	Quad Cities	2206-69873	69/P	M	8/E* Muncie, IN '99	Unknown	Hacked at Bluffton
2004	Cedar Rapids	220669895	D/04	M	*S / *5 Des Moines '98	64X Des Moines '91	
2004	Cedar Rapids	180762140	63/D	F	*S / *5 Des Moines '98	64X Des Moines '91	dead
2004	Cedar Rapids	180762141	64/D	F	*S / *5 Des Moines '98	64X Des Moines '91	
2004	Louisa	220669892	D/01	M	Z/V Riverside, MN '99	Unknown	
2004	Louisa	180762139	62/D	F	Z/V Riverside, MN '99	Unknown	dead
2004	Louisa	220669893	D/02	M	Z/V	Unknown	

					Riverside, MN '99		
2004	Louisa	220669894	D/03	M	Z/V Riverside, MN '99	Unknown	
2004	Des Moines	220669897	D/05	M	8/*T Colannade '02	93T Cedar Rapids '90	
2004	Des Moines	220669896	D/06	M	8/*T Colannade '02	93T Cedar Rapids '90	dead
2004	Des Moines	220669898	D/07	M	8/*T Colannade '02	93T Cedar Rapids '90	
2004	Quad Cities						Report of three young
2004	Quad Cities						No other details
2004	Quad Cities						
2005	Louisa	168701918	P/43	F			
	Louisa	168701919	P/44	F			
	Louisa	220672229	C/60	M			
	Louisa	220672230	C/61	M			
	Quad Cities	168701901	N30	F	8/*E Muncie, IN '99	P/D Dubuque, '99	Died at fledging
	Des Moines	168701902	N31	F	8/*T Colannade '02	93T Cedar Rapids '90	
	Des Moines	168701903	N32	F	8/*T Colannade '02	93T Cedar Rapids '90	
	Des Moines	220672211	C25	M	8/*T Colannade '02	93T Cedar Rapids '90	
	Des Moines	220672212	C43	M	8/*T Colannade '02	93T Cedar Rapids '90	Died pre-fledging
	Chillicothe	220672213	C44	M	Z/V Riverside, MN '99		
	Chillicothe	168701904	N33	F	Z/V Riverside, MN '99	unk	
	Lansing	1687-01931	P/79	F	T*/M		
	Lansing	1687-01932	P/80	F	T*/M		

	Lansing	2206-72205	C/74	M	T*/M	
	Lansing	2206-72206	C/75	M	T*/M	
	Lansing	2206-72207	C/76	M	T*/M	
	Waukon Jct. Leo's Bluff	1687-01935	P/83	F	48/E	19/M
	WJ Leo's Bluff	2206-72210	C/79	M	48/E	19/M
	Cedar Rapids	1687-01917	P42	F	S*/5*	78/E
	Cedar Rapids	2206-72227	C58	M	S*/5*	78/E
	Cedar Rapids	2206-72227	C59	M	S*/5*	78/E
2006	Cedar Rapids	2206-84539	H/83	M	S*/5*Des Moines, '98	78/E
	Cedar Rapids	2206-84540	H/84	M	S*/5* Des Moines '98	78/E
	Cedar Rapids	2206-84541	H/85	M	S*/5* Des Moines, '98	78/E
	Cedar Rapids	1687-02069	M/37	F	S*/5* Des Moines, '98	78/E
	Quad Cities	2206-84545	H/75	M	8/E*Muncie, IN, '99	P/D Dubuque, IA, '99
	Quad Cities	1687-02075	M/31	F	8/E* Muncie, IN 99	P/D Dubuque, IA '99
	Ottumwa Generating Plant	2206-84546	H/76	M	Z/V Riverside, MN '99	unk
	Louisa Generating Station	1687-02070	M/38	F	Unk	unk
	Louisa Generating Station	1687-02071	M/39	F	Unk	Unk
	Louisa Generating Station	2206-84542	H/87	M	Unk	Unk

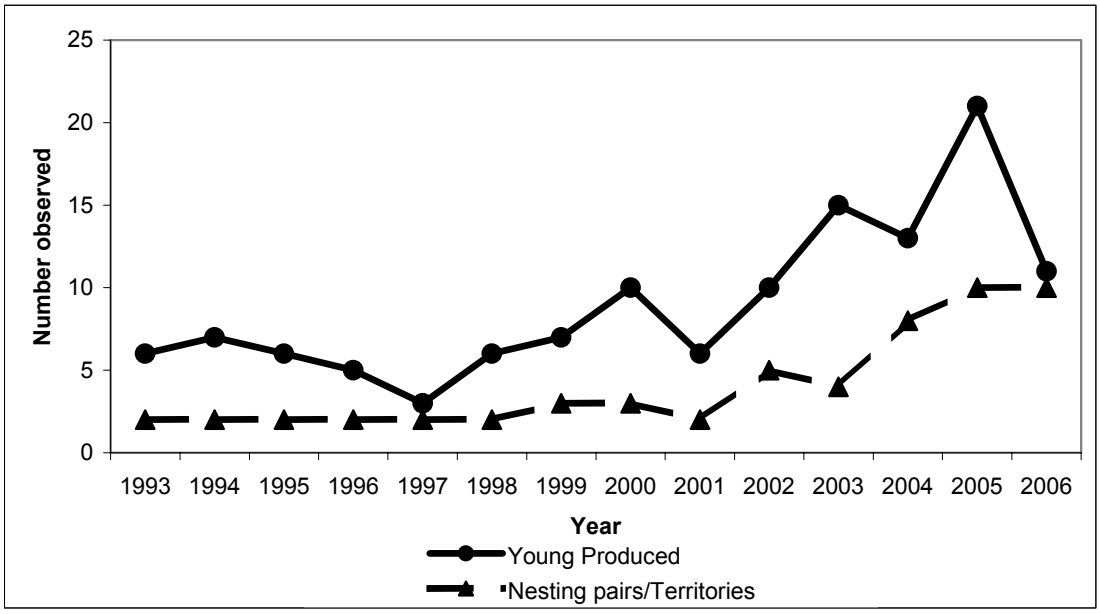
Dual color bands for young are black over red, with black listed first (1993-1999); black over green (2000-2001 & some 1999).

Table 6.3. Evidence of Nesting and Survival of Peregrines hatched in Iowa.

Year Hatched	Release Site	Band #	Sex	Comments
1989	Cedar Rapids	V52	F	Nested in Winnipeg, (‘91-2001)
1989	Cedar Rapids	T63	M	Nest attempt in Cedar Rapids (’92)
1989	Cedar Rapids	V81	F	Nested in Minneapolis (1991-1994)
1991	Des Moines	X64	M	Nesting in Cedar Rapids since 1993
1990	Cedar Rapids	V93	F	Killed by another peregrine in Minneapolis July ‘91
1990	Cedar Rapids	X20	M	Nested in Des Moines in ’92; Killed by another peregrine in Des Moines in 1993.
1990	Cedar Rapids	T93	M	Spent summer 1991 in DSM. Nested in St. Louis in ’92; Nesting in Des Moines (1993-2001).
1990	Cedar Rapids	T94	M	Nested in Sherburne Cty, MN (‘92-’93); also mated w/F in Monticello, MN in ‘93
1990	Cedar Rapids	T95	M	Observed at Muscatine hack site in ‘92
1990	Cedar Rapids	V81	F	Nested in Hennepin Cty, MN (‘91-’94)
1991	Cedar Rapids	R49	F	Nested in Cedar Rapids (1993-1999).
1991	Des Moines	R33	F	Nested at Woodmen Tower in Omaha, NE in 1992-1993; killed by PF 3/29/94.
1991	Des Moines	R28	F	Nested in Topeka, KS in ’93 – ‘94
1991	Des Moines	R47	F	At Perry Lake, KS Oct. ’91; dead in Topeka, KS 6/93.
1992	Muscatine	C/M	M	At Muscatine nestbos in May ’93; dead near East Chicago, IN 4/19/96.
1992	Muscatine	3-Feb	F	Nested in St. Louis in ’93 -‘94
1992	Muscatine	2-Feb	F	Nested in La Crosse, WI in ’93, observed unpaired in same location in ‘94
1994	Cedar Rapids	K/*6	M	Died from window collision in Chicago, IL June 1996.
1994	Cedar Rapids	E/C	F	Nested at Redwing, MN in 1995

1994	Des Moines	M/*6	F	Caught 30 km south of Mexico City, Mexico on 3/15/95.
1996	Mason City	*5/T	F	Nested on Dairyland Powerplant stack at Alma, WI (1997-2001).
1996	Cedar Rapids	*Y/3		Nesting at WEPCO Valley Power Plant, Milwaukee, WI this was a new site in 2001
1998	Mason City	*7/K	M	Nesting in Rochester, MN in 2000, killed by car 2001
1998	Mason City	*3/*5	M	Nesting in LaCrosse, WI in 2000
1998	Mason City	*C/*P	F	Nesting on Queen's Bluff, MN in 2000-2001
1998	Effigy Mounds	*E/W	M	Nesting on Queen's Bluff, MN in 2000-2001
1998	Des Moines	*S/*5	F	Nesting at Cedar Rapids Firstar Bank (2000-2001)
1999	Effigy Mounds	X/B	F	Nesting at LaCrosse, WI in 2000
1999	Louisa	??	M	Reported by Tom Deckert on Mid-American Energy bldg., Spring 2000
1999	Cedar Rapids	*E/*V	F	Seen by Steve Dinsmore at power plant S. of Council Bluffs 5/11/2000. Nesting on Woodman Tower, Omaha, NE in 2001.
1999	Dubuque	G/V	M	Nesting at Cassville, WI smokestack box in 2000
1999	Cedar Rapids	*E/*W	F	Nesting on bluff at Maiden Rock, WI in 2000
1999	Dubuque	P/D	M	Nesting on MidAmerican Energy bldg. in Quad Cities
2003	Des Moines	19K	M	Nesting on Capitol at Lincoln, Nebraska

Figure 6.2. Young Peregrine falcons produced from known Iowa nesting pairs 1993 - Present.



RIVER OTTER RESTORATION

1800

Prior to Iowa settlement, the river otter was common along major rivers and streams throughout the state. However, otter populations were reduced by a combination of factors including unregulated trapping, polluted waters, and agricultural activities. By the early 1900s there were few otter sightings on Iowa's interior streams. The species was extirpated from most of the state, except for a small remnant otter population along and adjacent to the Mississippi River in northeastern and east central Iowa.

1985

Efforts to restore the river otter to other parts of Iowa began in 1985 when 16 otters (8F,8M) from Louisiana were released at the upper end of Red Rock Reservoir in Marion County. These otters were obtained through a three-way trade in which the Iowa DNR provided wild turkeys to Kentucky who, in turn, bought 16 otters from Louisiana, at $400 each, to be released in Iowa. Two turkeys were traded for each otter received. Each otter was tagged in both ears and on the webs of both hind feet for future identification. Radio transmitters were implanted in the otters at Red Rock to monitor movements, mortality, and habitat use.

1989-90

After the apparent success of the initial release, additional otters were released at sites throughout Iowa (Fig. 7.1). Otters were obtained through the same 3-way trade mentioned earlier until 1989. In 1989, the Mitchell County Conservation Board and local schools provided the funds to purchase 8 animals. In 1990, 38 additional otters were release on the Cedar River in Mitchell County as well as on the Winnebago River in Cerro Gordo County. These releases were funded through local fund-raising efforts and T-shirt sales from the Iowa Trappers Association, Furtakers of Iowa, ISU Fisheries and Wildlife Biology Club, and the Iowa DNR.

Between 1985 and 1990, 222 otters were released at 11 sites (Table 7.1). To help reduce trapping mortality, at each release site a portion of the stream was closed to trapping within 10 yards of a beaver lodge or den, because these areas were commonly used by otters. In 1997, this restriction was deemed unnecessary and, consequently, removed, with the exception of Linn County. However, many trappers voluntarily maintained the 10-yard rule while trapping.

1997

Two additional sites received otters in 1997. Indian Creek Nature Center in Linn County provided funding for 17 animals, and Chichaqua Wildlife Area in Polk County where the Polk County CCB provided funding for 10 animals. Two release sites were added in 1998, both in Cedar Falls. The Black Hawk CCB provided funds for 12 animals. Half were released on the Cedar River at Hartman Reserve Nature Center and the remaining 6 were released on the other side of the Cedar River at George Wyth State Park. In 1999, no animals were purchased from Louisiana for release. From 1985-1999, 261 Louisiana River Otters have been released into Iowa’s rivers and lakes.

1999-2000

Otter populations in several localized sites across the state are experiencing road-kills and incidental trappings. The Iowa DNR wanted to determine the viability of these localized "hot spots" by live trapping and trans-locating some of the animals and monitoring the population changes at both site of capture and the site of release. In 1999, 5 otters were trans-located from the Des Moines River in Boone County to Peterson Pits along the Skunk River in Story County. An additional 3 otters were trans-located from the Little Sioux River in Buena Vista County to the Boyer River in Sac County.

2000-2001

During the fall and winter of 2000-2001, 5 additional otters were released to Buena Vista County Boyer River Site. Five were captured and released on the East Nishnabotna River near Audubon. Three were captured and released at Miami Lakes in Monroe County. Two were released on Cedar Creek east of Albia. During the fall and winter of 2001-2002, 5 more otters were captured and released on the East Nishnabotna River near Audubon. The Iowa River Greenbelt Trust also funded the release of 11 river otters to the Iowa River at the Hardin City Access near Steamboat in 2000-01. The DNR delisted the river otter from the threatened list in 2001 but otters have been completely protected, at least through a portion of at 2006.

2001-2002

In 2001-02, a record 32 additional river otters were trapped and released at other sites across the state. (Table 7.1)

2002-2003

In 2002-2003, only 11 otters were trans-located to other parts of town. This was surprising, as the trapping conditions early in the season were relatively mild. I do not think the lower numbers are indicative of reduced otter populations but rather a reduction of effort on the part of our contract trappers. Select Contract Trappers received $100 per each otter caught plus mileage to and from the release site.

2003-2004

In 2003-2004 we discontinued translocation of River Otters within the state. A concerted effort was made to collect otter teeth and reproductive tracts from all remaining river otter carcasses within the state to determine the population, age, and reproduction of Iowa otters. Pooling this data with previous collections should give us an adequate sample to develop a population model and population estimate of Iowa's River Otters.

2005

A river otter habitat model for Iowa has been developed from Iowa GIS information. These are important steps in meeting the requirements of the Scientific Authority of the Fish and Wildlife Service before Iowa is allowed a regulated River Otter harvest season. Nearly 100 otter teeth and reproductive tracts have been collected to further add evidence to the validity of a regulated river otter season. Our goal is to have this season by no later than 2006. A river otter harvest management plan has been developed from all data gathered. Initial seasons will be conservative, and all Iowa otters will be required to be tagged within 48 hours of capture.

Otter releases have been monitored by searching for tracks, mud-slides, snow slides, and by soliciting

observations from DNR and CCB personnel, and the public. Thus far, the results are encouraging; otters have been observed at all release sites and in all 99 counties across the state. Reproduction has been documented in over 85 of Iowa's 99 counties (figure 7.1). Major mortality causes are incidental trapping and roadkills. The goal of the otter restoration project is to have statewide distribution and ultimately some type of regulated otter harvest season in most portions of the state.

As the otter population increases, we are receiving more otter depredation complaints, particularly on farm ponds. Some fishery interests are also showing concern of otter depredation of certain fish species on certain localized rivers and streams.

Areas in southern Iowa have apparently benefited from otter releases in Missouri. Areas in southern Minnesota are benefiting from Iowa releases. Nearly everyone closely associated with furbearer resources in Iowa believe in Iowa, River Otters are doing extremely well.

2006

A notice of intended action to establish a conservative river otter harvest season occurred in late 2005. Six public hearings were held and the public was also able to express their opinions on the proposed season via the DNR website. About 450 responses were tallied with about 85% of the input supportive of the river otter harvest season as proposed. In May the DNR Commission unanimously voted to move forward with the season. We have also requested and anticipate the Scientific Authority of the Fish and Wildlife Service will approve Iowa river otter season under the CITES (Convention in Trade of Endangered Species).

Dr. Bill Clark's, Professor at Iowa State University, Iowa River Otter population model projected that there are a conservative 7000 otters in the state. Taking 400 of these animals will still their population to increase and expand

The parameters for Iowa River otter season are as follows: Opening 8:00 a.m. November 4, 2006 and closing January 31, 2007 or when the statewide quota of 400 otters has been reached. Each licensed fur harvester (trapping only,) could take 2 otters during the entire open season. A valid fur harvester license, 16 and over--$21, and habitat fee,$8.50, is required.

Trappers will be allowed a 72-hour grace period after the quota is reached to clear their traps of river otters and relinquish any number over the legal 2 per season that they have taken. River otters found in traps during the grace period may be kept even though the quota is exceeded, as long as the trapper has not reached his or her personal bag limit of 2 per season. River otters trapped after the grace period or in excess of the seasonal bag limit must be turned over to the department; the trapper will not be penalized. Trappers found holding otters after the grace period would be subject to citation including a fine and possible revocation of their fur harvester license.

Reporting requirements are as follows: Trappers who bag a river otter, including landowners and tenants not required to have a fur harvester license, must report their harvest to a DNR conservation officer within 24 hours. The trapper must arrange to receive a CITES tag or Iowa River Otter Harvest Tag from the officer within 72 hours of the time it is reported or before the river otter is skinned, whichever first occurs.

Upon receiving a telephone report from a trapper that a river otter has been legally taken, conservation officers will

call the department's harvest reporting system. The number of river otters taken will be updated daily and a message recorded on the department's telephone system. The number taken will be available 24 hours a day. Trappers may check the message daily to determine when the season closes and the grace period begins and ends. The department will use all practical means to publicize these dates.

Every river otter that may legally be kept by a trapper must have a CITES tag attached. Tags will be supplied by the conservation officer. The tag must remain with the pelt until the pelt is sold or used for other purposes that render it no longer available for sale. A secondary tag will remain with the otter carcass so needed reproductive and age structure data can be collected. Persons displaying river otters as taxidermy mounts or other decorative items must keep the tag in their possession as proof of legal harvest.

Persons that accidentally capture a river otter during a closed season or after the person's individual bag limit has been reached will not be penalized as along as the following circumstances occur: (1) the river otter is captured during a legal trapping season or as part of a legal depredation control process. (2) A conservation officer is contacted within 24 hours and the river otter and all parts thereof are turned over to a conservation officer as soon as practical.

The Scientific Authority and a group of fur technical resource professionals are currently working on a protocol to streamline all requests made to establish river otter harvest seasons. They failed to reach their goal of having this new protocol in place by January 1, 2006. The new protocol goal is to complete the streamlined process by January, 2007.

We believe that Iowa's River Otter population is very healthy and increasing and that as we collect data associated with our River Otter harvest season, the population will be able to continue to increase and the harvest parameters will likely be liberalized.

With that theme in mind, the River Otter harvest season will be the first new open season since 1972 (34 years) when another restored wildlife species the wild turkey season opened. Our slogan was "They Otter be in Iowa" and now they most certainly are.

Table 7.1 River otter release sites in Iowa, 1985 – present.

Year	Males	Females	County	Nearest Town	River / Area
1985	8	8	Marion	Runnells	Red Rock Reservoir
1986	10	10	Tama	Chelsea	Otter Creek WMA
1986	10	10	Hamilton	Stratford	Boone River
1986	10	10	Guthrie	Guthrie Center	Springbrook Park
1987	10	10	Clay	Peterson	Little Sioux River
1987	10	10	Lucas	Russell	Rathbun Reservoir
1988	10	10	Bremer	Tripoli	Sweet Marsh WMA
1988	10	10	Linn	Waubeek	Wapsipinicon River
1988	10	10	Montegomery	Morton Mills	Nodaway
1989	5	3	Mitchell	Otranto	Cedar River
1990	7	8	Mitchell	Otranto	Cedar River
1990	13	10	Cerro Gordo	Mason City	Winnebago River
1997	9	8	Linn	Cedar Rapids	Indian Creek
1997	6	6	Polk	Chichaqua	Skunk River
1998	7	5	Black Hawk	Cedar Falls	Cedar River
1998-1999*	5 sex unknown		Story	Ames	Peterson Pits
1998-1999	3 sex unknown		Sac	Reiff Park	Boyer River
1999-2000	5 sex unknown		Sac	Reiff Park	Boyer River
1999-2000	5 sex unknown		Audubon	Audubon	E. Nishnabotna River
1999-2000	3 sex unknown		Monroe	Miami Lake	Miami Lake
1999-2000	2 sex unknown		Wapello	Cedar Creek	Cedar Creek
2000-2001	5 sex unknown		Audubon	Audubon	E. Nishnabotna River
2000-2001	11 sex unknown		Hardin	Steamboat Rock	Iowa River
2001-2002	3 sex unknown		Hardin	Steamboat Rock	Iowa River
2001-2002	2 sex unknown		Clayton	Eldorado	Turkey River
2001-2002	4 sex unknown		Pottawattamie	Oakland	W. Nishnabotna River
2001-2002	2 sex unknown		Marion	Hamilton	North Cedar Creek
2001-2002	2 sex unknown		Cass	Atlantic	E. Nishnabotna River
2001-2002	5 sex unknown		Poweshiek	Brooklyn	English River
2001-2002	14 sex unknown		Worth	Northwood	Shellrock River
2002-2003	2 sex unknown		Pottawattamie	Avoka	W. Nishnabotna River
2002-2003	9 sex unknown		Grundy	Grundy Center	Blackhawk Creek

GRAND TOTAL of Males and Females = 345

*Coincides with the capture of otters to translocate during the succeeding trapping seasons. No otters were translocated during the winter of 2004-2005.

GREATER PRAIRIE CHICKEN RESTORATION

HISTORICAL REVIEW

Greater prairie chickens (*Tympanuchus cupido pinnatus*) commonly nested throughout Iowa from the time of European settlement in the mid-nineteenth century until about 1900. Numbers peaked about 1880 when most of Iowa was a mosaic of small grainfields, hayfields, pasture, and native prairie, which provided ideal habitat conditions (Ehresman 1996). During the late nineteenth century, prairie chickens were the most abundant gamebird on Iowa prairies. Hunting and trapping them for food and market were very important to settlers. Bags of 25 to 50 a day were common, and some hunters took up to 200 per day.

By 1878, Iowa lawmakers were concerned that prairie chickens were being over-harvested. The Iowa Legislature passed a law that year limiting the daily bag of prairie chickens to 25 birds per person. This is believed to be the first time that bag limits were used as a tool to regulate the harvest of game in the United States. Additional restrictions followed, and the last open season for prairie chickens in Iowa was held in 1915 (Stempel and Rodgers 1960).

As agricultural land use intensified, populations of prairie chickens started to decline. By the 1930's, most prairie chickens found in the northwestern part of the state were migrant winter flocks. Small numbers continued to nest along the northern, northeastern, and southern borders of the state. By the 1950's, the only known nesting prairie chickens were in Appanoose, Wayne, and Ringgold Counties in southern Iowa. The last verified nesting prior to reintroduction attempts was in Appanoose County in 1952 (Stempel and Rodgers 1960).

RESTORATION

First Reintroduction Attempt

In the early 1980's, the Iowa Conservation Commission, now the Iowa Department of Natural Resources (IDNR), attempted to restore prairie chickens to west central Iowa. The IDNR negotiated with the Kansas Fish and Game Commission (KFGC), now Kansas Department of Wildlife and Parks (KDWP), to trade wild turkeys for 100 prairie chickens (Table 8.1). The release site was located in the Loess Hills east of Onawa, Monona County (Fig. 8.1). This is an area of steep to moderately rolling bluffs and hills bordering the Missouri River valley. These hills have large expanses of grassland interspersed with brush and small crop fields.

Fifty-three prairie chickens were released in 1980. Results from the first release were mixed. A large number of chickens were observed in the release area the following day; however, sightings thereafter were sporadic and often at a distance from the release area. During 1980, reliable sightings were reported both near the release area and up to 19 miles away. The KFGC was unable to secure additional birds for stocking in 1981; however, observations continued. In 1981, single birds occurred near the release area and groups of birds were reported 20 and 60 miles from the release site. No spring leks were located in the 2 years following the release, and no reproduction was reported.

Following mild winters in 1981

and 1982, KFGC personnel decided to attempt a different trapping approach. Chickens were rocket-netted on leks in April as they displayed. This trapping method proved successful, and 48 chickens were transported to Iowa for release at the same area in the Loess Hills in 1982. Rather than simply turning the birds loose from transport crates, as was done during the first release, the birds were banded and put in a large holding pen with separate cells for each sex. The objective was to give the chickens a chance to settle down after transport and to acclimate to the new area. Males were held overnight and released the next morning. Females were released 24 hours later. It was hoped that males would be stimulated to remain near the release site by holding the females a day longer.

Taped lek calls were played through speakers located near the pen about 45 minutes prior to releasing males. This was an attempt to induce chickens to establish a lek in the area. The release was made by slowly raising the pen door from a distant location. Most males simply walked out of the pen, moved randomly about for a few minutes, and then wandered near the females' side of the pen. They remained there for 15 to 45 minutes before walking or flying off. Females were released under similar conditions the following morning. Most walked from the pen and flew short distances to taller grass cover.

Two prairie chicken broods were reported near the release site in 1982, and up to six adults were observed near the Missouri River bottom the same year. Two leks consisting of only a few displaying males were located in 1983 and 1984. Most sightings were in the heavily agricultural Missouri River valley instead of the hills where they were released. The birds appeared to prefer the level valley to the hilly region where they were released. Suitable grassland habitat was lacking in the valley. Only an occasional sighting has been reported in this region since 1984, leading to the conclusion that this reintroduction effort failed (Ron Munkel, IDNR, *pers. comm.*).

Second Reintroduction Attempt

1987-1989 Stockings: In 1987, the IDNR made a second restoration attempt. The release site was on the Ringgold Wildlife Area located two miles north of the Missouri border in Ringgold County in south central Iowa (Fig 8.1). Wildlife personnel considered this region to be the best potential prairie chicken habitat in Iowa. The immediate vicinity was one of the last strongholds of prairie chickens in southern Iowa and northern Missouri (Christisen 1985, Stempel and Rodgers 1960). The surrounding portions of Ringgold County and adjacent Harrison County, Missouri, are cattle country, with 60% or more of the land in permanent grass. Donald Christisen (1985) concluded that the demise of prairie chickens in this area was due to heavy utilization of grasslands by livestock, resulting in poor quality habitat. Recent years had brought some positive changes in the grasslands of the area. It was hoped that these changes would again provide suitable habitat for prairie chickens. A major change was restoration of around 200 ha of prairie on the Ringgold Wildlife Area. Other changes were better pasture management by some area farmers and the Conservation Reserve Program (CRP). CRP converted thousands of hectares of cropland into a diversity of mostly undisturbed grasslands for at least 10 years.

The birds for this reintroduction were again obtained from Kansas through a three-way trade in which IDNR supplied

wild turkeys to the Michigan Department of Natural Resources (MDNR) while a MDNR crew trapped prairie chickens in Kansas for translocation to Iowa. Prairie chickens were captured in the spring with funnel traps set on booming grounds in the Flint Hills region of Kansas. Every few days the captured birds were transported to Iowa and released the next morning utilizing a soft release box and artificial lek technique, which had been successfully used in Kansas to reintroduce sharptail grouse (Rodgers 1987). A total of 254 prairie chickens were translocated to the Ringgold Wildlife Area from Kansas during 1987, 1988, and 1989 (Table 8.1).

By the spring of 1988, leks had been established at the release site and a site 15 km south in Missouri. The Missouri site was on the Dunn Ranch, a cattle ranch operated by Forrest and Maury Meadows of Bethany, Missouri. The ranch included about 500 ha of well-managed native prairie pasture in addition to several hundred hectares of cool season pasture. This ranch contained a major lek before the disappearance of prairie chickens in the 1960's. The lek established in 1988 was on the same site as the historic lek, and the birds using it were verified as Iowa release birds by the bands on their legs (Maury Meadows, *pers. comm.*).

No prairie chickens were released in 1990 or 1991. Reproductive conditions for gallinaceous birds were poor in this area throughout that time; however, brood sightings were made each year. By 1991, prairie chickens appeared to be firmly established on the Dunn Ranch, but only one lek of six males could be located in Iowa that year. The success of the reintroduction of prairie chickens to the Dunn Ranch was the bright spot of the project thus far. It was evident that reintroductions in this region could succeed.

1992-94 Stockings: Based on the success of the Dunn Ranch, the IDNR continued the restoration program with more translocations from Kansas. An agreement with KDWP allowed IDNR crews to trap and translocate 100 prairie chickens a year. Instead of releasing all of the birds at one site, it was decided to release significant numbers on large grassland tracts in the region, while releasing a smaller number at the original Ringgold Wildlife Area. Birds were translocated to two new sites in 1992, Mount Ayr and Kellerton (Fig. 8.1). The Mount Ayr site is 28 km northwest and the Kellerton site is 24 km northeast of the Ringgold Wildlife Area. The Mount Ayr site was dropped in 1993, and the Orient site was added. Orient is 90 km northwest of the Ringgold Wildlife Area. All of the sites contained high quality grasslands and open landscapes. Most land use at all three sites was a mixture of pasture, hay, and CRP.

A total of 304 prairie chickens were released in this three-year period (Table 8.1). Gentle releases were made onto either artificial leks or actual leks.

Subsequent Stocking:

No additional stockings were anticipated following releases in 1994. However, while live trapping Sharp-tailed Grouse for IDNR's restoration project in the Loess Hills, South Dakota Game Fish and Parks (SDGFP) employees incidentally trapped three prairie chickens in 2001. Rather than release these birds at the trap site, SDGFP offered them to IDNR. The offer was accepted, and one male and two female chickens were released at the Kellerton lek in April 2001. This additional release results in a

total of 561 prairie chickens translocated to Iowa since 1987.

Missouri Reintroduction: The Missouri Department of Conservation (MDC) has been reintroducing prairie chickens in north central Missouri since 1993. Approximately 100 birds have been released each year through 1997 and again in 2000. They have released birds at eight sites located 60 to 100 km southeast of the Ringgold Wildlife Area and 10 to 40 km south of the Iowa border (Larry Mechlin, MDC, *pers. comm.*).

There were sightings of prairie chickens immediately south of the Iowa border in the spring of 1998, and it is probable that adjacent areas in Iowa have prairie chickens as a direct result of Missouri's stocking efforts. Jeff Telleen and Bruce Fistler picked up a road-killed prairie chicken in Monroe County just south of Melrose on June 7, 1998. The bird was not banded and was mostly likely a pioneering bird from one of Missouri's latest releases. Thunderbird Lake, Missouri, is the release site closest to Melrose. Missouri's releases at Thunderbird Lake are very close to the Iowa border and may act as repayment for Iowa's 1987 releases that reestablished birds on the Dunn Ranch (Larry Mechlin, MDC, *pers. comm.*).

BOOMING GROUND SURVEY

Methods

Attempts are made each spring by IDNR personnel and volunteers to locate leks and count booming males. Counts of known leks are made on sunny mornings with winds <10 mph throughout the month of April. Lek sites are glassed or flushed to determine the number of booming males. New leks are located by driving gravel roads and stopping periodically to listen for booming. Because of the large area of potential habitat and limited manpower, the number of booming males observed is considered minimal. It is highly probable that a number of booming grounds have not been located. MDC personnel make similar counts on and around the Dunn Ranch, where the birds are part of the same regional population.

Results

1995: The number of booming grounds increased from three in 1994 to seven in 1995 with 40 males present (Table 8.2). These seven lek sites are found in five different counties. Two of these counties are release site counties (Ringgold, Adair). The lek sites in Adams, Decatur, and Union Counties are birds pioneering new areas. Adult males have a strong affinity for established leks, whereas young males may actively look for new areas to establish a lek. Young females may also wander in the spring in search of a lek. A mosaic of leks across a large area may prove to be an important component of prairie chicken biology.

1996: In the spring of 1996, six leks from 1995 still showed some activity. Note in table 8.2 that 18 males were observed on four leks, but no legal description was taken. The number of booming males declined 38% from 40 to 25 birds (Table 8.2). Similar to prairie chickens, pheasant numbers in the southern pasture region declined 31% during this same time. Nesting conditions during the spring and summer of 1995 were abnormally wet. Southern Iowa experienced rainfall totals for April and May 6 inches above normal. This likely reduced nest success in 1995, leading to the reduced number of booming males in 1996.

1997: Only Ringgold and Decatur Counties had active leks during the spring of 1997, which is a significant decrease from the five counties with active leks in 1996. The decline in lek sites may have been a result of land coming out of CRP. One lek site in Adair County was plowed in 1996. There was still activity at this site in 1996: however, no birds were observed booming at this location in 1997. In addition to Adair, there were observations of non-booming chickens in Adams, Warren, and Union Counties during spring 1997. Warren was a new county for prairie chicken reports and is somewhat isolated from source populations. This may be indicative that more birds are out there than are being reported.

Final counts showed the number of booming males had declined even further in 1997 (-28%), with 18 males counted on four active leks (Table 8.2). Another abnormally wet spring in 1996, combined with the loss of CRP, contributed to decreasing prairie chicken numbers. Rainfall across the prairie chicken restoration area averaged 5 inches above the long-term average. Pheasant counts across southern Iowa also declined >30% during this time. The decline in booming males could again be attributed to poor reproductive success during 1996, with the loss of several leks sites in Adair County aggravating the problem of poor recruitment.

1998: Department personnel observed booming activity in Adair, Decatur, and Ringgold Counties in 1998. Forty-three males were observed on nine leks (Table 8.2). This represents a 139% increase in the number of booming males and a 125% increase in active leks over 1997. Upland bird nesting conditions greatly improved across southern Iowa in 1997, as evidenced by a 60% increase in pheasant numbers during 1997. Mel Moe reported the first prairie chicken brood on June 6, 1998: a brood of 12 in Section 33, Monroe Township, Ringgold County

1999: Department personnel observed booming activity in Adams, Decatur, and Ringgold Counties in 1999. Thirty-nine males were observed on eight leks (Table 8.2). This represents a 9% decrease in the number of booming males and 11% decrease in active leks over 1998. Due to the abnormally wet nesting season in south central Iowa last year, pheasant counts were at an all time low for the region. The fact that prairie chicken numbers remained essentially unchanged from 1998 is a very positive sign for Iowa's population. The location of known active leks is shown in Figure 8.2.

2000: Booming prairie chicken males were observed in Decatur, Ringgold, and Wayne Counties in 2000 (Table 8.2). This was the first time a lek was recorded in Wayne County. Forty-four males were active on six booming grounds. This was the highest number of booming males recorded in Iowa and the highest total number of males per lek. The number of booming males increased 13% over 1999, but the number of active leks decreased from eight to six (-25%). The six-year mean total number of booming males is 34.8; therefore, the number observed in 2000 is 26% above the mean. The same trend was observed for total number of males per lek; 7.3 is 28% above the six-year mean of 5.7. Known active lek locations are shown in Figure 8.2.

2001: Booming activity was

observed by department personnel again in Decatur, Ringgold and Wayne Counties in 2001 (Table 8.2). Birds were active on seven booming grounds, an increase of one site (16.6%) from the previous year. However, the number of booming males dropped to 28 in 2001, a 36.4% decline from 2000 and a 16.7% decline from the seven-year mean total of 33.6. The 2001 mean of four males per lek represented a 45.2% decline from 2000. Known active lek locations are shown in figure 8.2.

2002: This year personnel witnessed a direct loss of one lek in Ringgold Co. (69N, 29W, Sec 3) from previous years due to CRP conversion to rowcrop, but yet maintained seven active leks as in 2001. This is the third year for Decatur, Ringgold, and Wayne counties. Three new locations were found. However, the number of booming males fell again this year (21.4%) to 22, bringing the mean total to 37.0 (Table 8.2). This also continues a two year trend of declining males per lek to 3.1 in 2002. This year the number of leks is near average, but the count of booming males and mean males per lek is below the eight year mean at 59.5% and 52.5% respectfully. Current and prior lek locations are shown in figure 8.2. There were no releases or relocates done in 2002.

2003: Three new locations were noticed again this year (Table 8.2). There was a gain of two leks from 2002 to nine for 2003, which is above the average to date by 15.3% (Table 8.2). This year yielded the most positive observation by matching the most leks observed since 1998. Also males per lek increased from 3.1 in 2002 to 3.6 in 2003, and total booming males showed increases of 10 from 22 to 32, making this the fifth most since 1995 (Table 8.2). Current and prior lek locations are shown in figure 8.2.

2004: Only one new location was noticed this year (Table 8.2). There was a loss of three leks from 2003 to six for 2004, which is below the average to date by 21% (Table 8.2). For the first time since reporting in 1995, only two counties are reported with active leks. Total booming males is among the lowest in record since 1997 (Table 8.2). However, males per lek continues to show steady numbers in recent years with 3.7 in 2004. Despite the large amount of spring rain in 2004, biologists still received reports of large broods. Current and prior lek locations are shown in figure 8.2.

2005: Two new lek locations were noted this year (Table 8.2). However, there was a reduction in total number of leks from six in 2004 to five this year. In 2005, there were once again 3 counties reporting active leks, which is up one county from last year. Total booming males was 24, which also is up from 22 last year (Table 8.2). Males per lek was the highest it has been since 2000, with 4.8 males per lek seen. Weather conditions were favorable for nesting this season, and broods have been reported. Current and prior lek locations are shown in figure 8.2.

2006: One new lek location was noted this year though one previously active was observed inactive so the total number of active leks remains at five (Table 8.2). These five leks were spread across three counties which is also consistent with last year. However, the lowest number of booming males since 1996 was recorded this year with only 16 reported (Table 8.2). The average number of males per lek was 3.2. No brood

sightings were reported. Current and prior lek locations are shown in figure 8.2.

DISCUSSION

Prairie chicken reintroduction efforts initiated in Iowa in 1987 and in Missouri in 1993 have resulted in a small, somewhat stable population of prairie chickens across a wide area of southern Iowa and northern Missouri. Large areas of habitat in this area still lack prairie chickens, and additional stocking may help fill in the gaps and augment existing local populations. Proposed stockings in Iowa would include releasing additional hens onto all known booming grounds and establishing new release sites in suitable habitat.

Pasture and hay are still primary land uses in this region. This land use, coupled with a high sign-up in recent CRP programs, should assure adequate grassland habitat for several years. A positive aspect of recent CRP programs was the emphasis on establishing cover beneficial to wildlife instead of grass monocultures. The Wildlife Habitat Incentives Program (WHIP) of the USDA also targets improvement of prairie chicken habitat in south central Iowa and should be beneficial to improving prairie chicken populations. IDNR-Private Lands personnel indicate priority points are not considered if landowners introduce cool season grass or tree plantings in certain areas. Also, landowners are encouraged to practice mid-contract management practices required to incorporate disturbances of some sort that can be beneficial. Intensive management of large blocks of grassland by public agencies will help ensure adequate habitat into the future. The Ringgold Wildlife Area has 300 ha which is managed as grasslands with open landscapes. Although no booming grounds have been located on this area in recent years, broods have been sighted nearly every summer. The TNC continues to be a cooperator in purchasing nearby grassland management areas.

Kellerton Bird Conservation Area/Grand River WHIP Update

A model for landscape-level grassland bird conservation was developed by research biologists in the Midwest and serves as the basic design for Partners in Flight (PIF) grassland Bird Conservation Areas (BCA). The Kellerton Bird Conservation Area (KBCA) was formally designated in 2001 and is PIF's first attempt to put the habitat objectives of the Dissected Till Plains Bird Conservation Plan into action. The KBCA is a 10,000-acre area of public and private lands located in extreme south central Iowa.

In 1998, the KBCA consisted of 70% grassland, 25% cropland, and 5% woodland. At least three current or recently used booming grounds are located within the boundaries. All the land was privately owned, and the grasslands were either pasture, hayfields, or land entered in CRP. Within this 10,000-acre area, a contiguous block of 2,100 acres of grassland was identified as a priority acquisition tract. The total estimated cost of this acquisition based on 1998 prices was $2,000,000. For this reason, acquisition of the 2,100-acre core area was proposed to occur in increments.

A 680-acre parcel was the first desired purchase aimed to protect Iowa's largest greater prairie chicken lek. The cost was $530,000. Unfortunately, the IDNR could not move quickly enough to acquire the 680 acres, and the land was bought by Kellerton Farms, a corporate farming group. However, because of a

slump in commodity prices, Kellerton Farms decided to offer the property to the IDNR. The IDNR acquired the initial 680-acre KBCA tract in December 1998. The IDNR, the National Fish and Wildlife Foundation, Pheasants Forever, Iowa Audubon, and numerous private donations provided funds for the initial acquisition. As of 2003 the DNR portion of the Kellerton Area consists of 1060 acres of land in the process of being restored to tallgrass prairie.

In 2001, two broods of prairie chickens, with at least a dozen young per brood, were observed 1.5 miles north of the core public lands, and within the larger designated KBCA.

In addition to the proposed 2,000 acre publicly-owned core area, IDNR and the Natural Resource Conservation Service (NRCS) promote conservation efforts on nearby private land. Area biologists work closely with landowners and implement WHIP, and CRP programs in and around the area. WHIP and CRP programs can be used to enhance wildlife management on an additional 2,500 acres of land within the KBCA by encouraging farmers to use rotational grazing, cutting trees, planting native grasses, and prescribed burning. Currently, the Landowner Incentive Program (LIP) within IDNR is providing much of the assistance to area landowners

The KBCA is the first grassland implementation of the PIF-BCA concept in the country. Wildlife Biologist Mel Moe implemented a management plan that includes a viewing area for prairie chickens. An old osage orange hedge row was cut in the spring of 1999 to open the vista of the new area, and a viewing platform and spotting scope were added in 2000. Large portions of the area continue to be managed for native grasses. Area cropland has been converted as mixed native seedings. The year 2004 marked an inaugural Greater Prairie chicken public viewing event for the Kellerton Bird Conservation Area.

In addition to the KBCA acquisition, the Missouri Nature Conservancy (TNC) purchased the 2,200-acre Dunn Ranch in the spring of 1999. The MDC also acquired Pawnee Prairie, a large grassland tract west of the Dunn Ranch.

Acquisition of core grasslands in Iowa and Missouri has led to the development of the Grand River WHIP project, however this was not approved by Congress in the Agriculture Appropriations bill. Under the original PIF-BCA concept, approximately 2,500 of private grasslands must also be manipulated to benefit grassland birds. The Grand River WHIP project was a joint proposal between the IDNR, MDC, and NRCS to target $6 million dollars over 5 years into the 70,000-acre core area surrounding the KBCA and Dunn Ranch grasslands. The funding would be used to assist producers to implement rotational grazing systems, seed pastures to native species, and remove trees. Funds can also be used to supply materials for fencing and watering systems. In 2003 an inventory of the prairie remnants in the area was conducted and provided to IDNR and TNC.

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Table 8.1. Dates, numbers, and locations of greater prairie chicken releases in Iowa, 1980-2001.

Release Date	No. Released	Source*	Release Location
February 1980	29Γ 24E	KFGC	Loess Hills Wildlife Area, Monona Co.[1]
April 1982	31Γ 18E	KFGC	Loess Hills Wildlife Area, Monona Co.
April 1987	20Γ 9E	KFGC	Ringgold Wildlife Area, Ringgold Co.[2]
April 1988	48Γ 75E	KFGC	Ringgold Wildlife Area, Ringgold Co.
April 1989	40Γ 62E	KFGC	Ringgold Wildlife Area, Ringgold Co.
April 1992	18Γ 21E	KDWP (IDNR trapping crew)	Mount Ayr, Ringgold Co., Price Twp., Sec. 13.[3]
April 1992	31Γ 20E	KDWP (IDNR trapping crew)	Kellerton, Ringgold Co., Athens Twp., Sec. 8.[4]
April 1992	9Γ 9E	KDWP (IDNR trapping crew)	Ringgold Wildlife Area, Ringgold Co., Lotts Creek Twp., Sec. 24.[2]
April 1993	13Γ 33E	KDWP (IDNR trapping crew)	Kellerton, Ringgold Co., Athens Twp., Sec. 8. [2]
April 1993	24Γ 24E	KDWP (IDNR trapping crew)	Orient, Adair Co., Lee Twp., Sec. 36.[5]
April 1994	10Γ 17E	KDWP (IDNR trapping crew)	Kellerton, Ringgold Co., Athens Twp., Sec. 8.[4]
April 1994	31Γ 34E	KDWP (IDNR trapping crew)	Orient, Adair Co., Lee Twp., Sec. 36.[5]
April 2001	1Γ 2E	SDGFP	Kellerton, Ringgold Co., Athens Twp., Sec. 16.[4]

* KFGC = Kansas fish and Game Commission, KDWP = Kansas Department of Wildlife and Parks, SDGFP = South Dakota Game Fish and Parks Department, IDNR = Iowa Department of Natural Resources.

[1-5] Release sites indicated on county map (Figure 8.1)

Table 8.2. Location and number of greater prairie chickens observed on active leks in Iowa, 1996-2006.

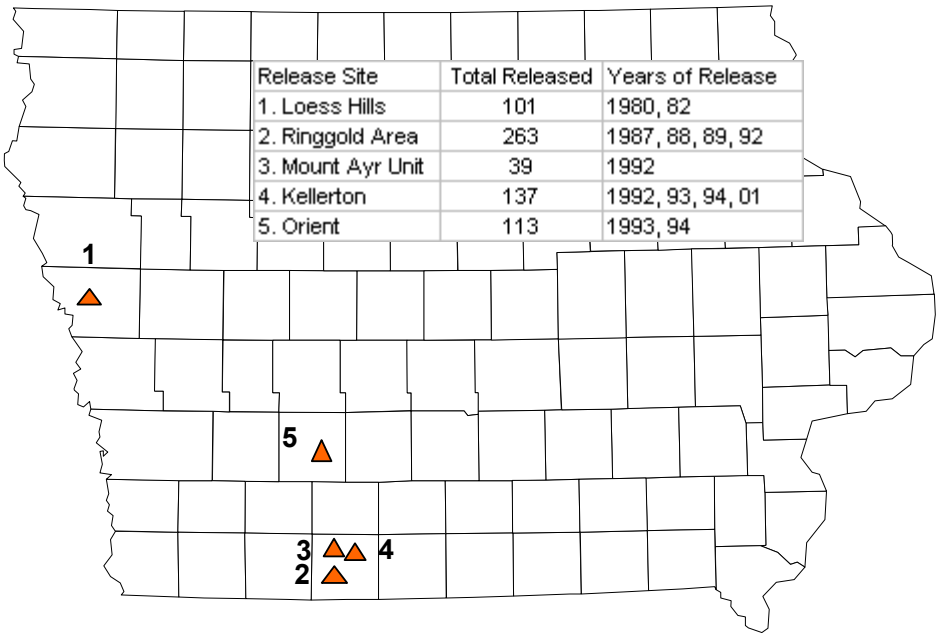
		Legal Description			Number of Booming Males[a]										
County	Township Name	Twp.	Rge.	Sec.	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Adair	Orient	74N	31W	3	4	2									
Adair	Orient	74N	31W	11		3									
Adair	Lee	75N	31W	26			1								
Adams	Union	72N	32W	24				3							
Decatur	High Point	69N	24W	1			8								
Decatur	High Point	69N	24W	2	3	4[b]					4				
Decatur	High Point	69N	24W	11			1	1							
Decatur	Grand River	69N	27W	16											1
Decatur	Grand River	69N	27W	22										3	1
Decatur	Franklin	70N	25W	9			2								
Decatur	Franklin	70N	25W	20	2	1									
Decatur	Garden Grove	70N	24W	36			10	6	7	4		3			
Ringgold	Athens	68N	28W	4	18[c]	8	5	5	3	1	2			3	2
Ringgold	Athens	68N	28W	16		5	12	11	14	11	10	10	11	11	11
Ringgold	Athens	68N	28W	8									3		
Ringgold	Athens	68N	28W	17								5			
Ringgold	Athens	68N	28W	2							1				
Ringgold	Athens	68N	28W	20								2			
Ringgold	Poe	68N	29W	?				2							
Ringgold	Rice	68N	30W	24			1								
Ringgold	Rice	68N	30W	13						3	2	1	1		
Ringgold	Liberty	69N	29W	3				4		5		4	2		
Ringgold	Liberty	69N	29W	10					8						
Ringgold	Monroe	69N	28W	2						1					
Ringgold	Monroe	69N	28W	12					7			4	4		
Ringgold	Monroe	69N	28W	28				7							
Ringgold	Monroe	69N	28W	33			3								
Ringgold	Monroe	69N	28W	15							1				
Ringgold	Monroe	69N	28W	22								1			
Ringgold	Tingley	70N	29W	34										5	
Union	Spaulding	73N	31W	?											
Wayne	Jackson	68N	21W	18					5	3		2	1	2	1
Wayne	Jackson	68N	21W	14							2				
Total Booming Males[d]		mean=	30.6	40	25	18	43	39	44	28	22	32	22	24	16
Total Active Leks		mean=	6.6	8	3	5	9	8	6	7	7	9	6	5	5
Total Males/Lek		mean=	4.8	5.0	8.3	3.6	4.8	4.9	7.3	4.0	3.1	3.6	3.7	4.8	3.2

[a] underlined numbers indicate birds were observed, but not booming.

[b] Four males were confirmed booming, but may be as many as 7.

[c] Total of 18 males observed on 4 leks but no legal descriptions reported.

[d] Males not observed booming are not included in totals.



Release Site	Total Released	Years of Release
1. Loess Hills	101	1980, 82
2. Ringgold Area	263	1987, 88, 89, 92
3. Mount Ayr Unit	39	1992
4. Kellerton	137	1992, 93, 94, 01
5. Orient	113	1993, 94

Figure 8.1 Location of release sites and total number of prairie chickens released in Iowa, 1980-2001.

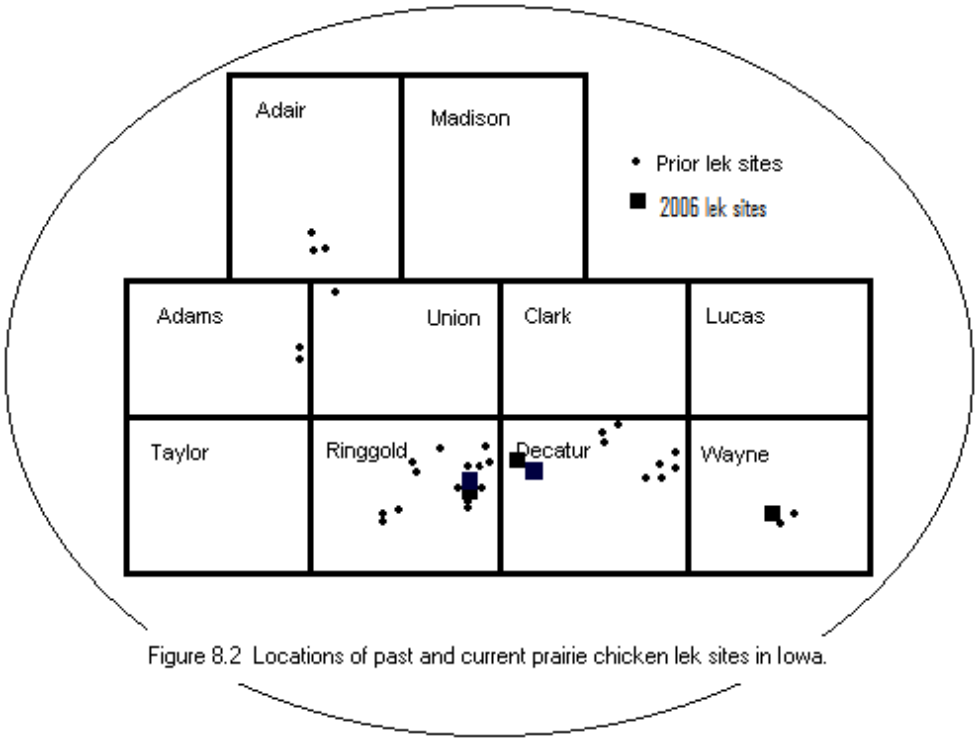


Figure 8.2 Locations of past and current prairie chicken lek sites in Iowa.

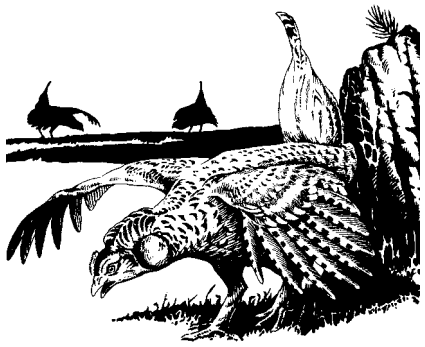
SHARP-TAILED GROUSE RESTORATION

Both Sharp-tailed grouse and prairie chickens (prairie grouse) were present in great numbers when the first settlers arrived in western Iowa. They provided a valuable food source until by the early 1900's, their numbers declined as a result of market hunting and habitat loss. Agricultural development and an eastern market for "prairie grouse" caused near decimation of the population by the 1940's.

In the late 1970's, interest developed in restoring both species to western Iowa. Wild-trapped prairie chickens were obtained from Kansas and released in the Loess Hills in 1980 and 1982. The releases failed to establish prairie chickens in their former range in the Loess Hills. After two unsuccessful prairie chicken releases, it was determined that sharp-tailed grouse would be a better candidate for restoration in the Loess Hills, because their behavior and habitat requirements are better adapted to the mix of grassland, brush and agricultural land in western Iowa. CRP acres enrolled in the late 1980's placed more and more acres in permanent grassland, increasing the likely survival of the sharp-tailed grouse in western Iowa.

In 1990, 19 sharp-tailed grouse were obtained from South Dakota and released in the Loess Hills. The birds scattered widely, and by the second year following release, they had vanished. A second attempt involved the release of 150 birds in 1995 and 1996. Birds from the second release survived through 2000, with documented reproduction, and establishment of a traditional lek. Following the apparent success in 2000 establishing a small breeding population, 100 more birds were received from South Dakota the winter of 2001 in order to bolster the number of birds and genetic diversity of the restored population. Birds obtained from South Dakota were held in pens until they became reproductively active. Releases were made in April on a site where birds in the reintroduced birds had established a lek. In 2001, it was hoped that the population would increase in size and begin to colonize in other areas of western Iowa.

In 2004, IDNR biologist Ed Weiner and professional wildlife photographer



Roger Hill observed 6-7 males on 4 leks and had confirmed sightings of 3 different sharp-tail broods.

In 2005, biologist Ed Weiner reported that the Sharp-tail population in Woodbury County was small but persistent. "We did have one sighting of 3 chicks and two hens this summer, and three single bird sightings earlier in the year in areas where birds have not been seen before. Only two birds were observed on previously occupied dancing grounds this spring. It appears that our population is hanging on, but not thriving. We will continue to obtain birds from SD when possible, and release them in the same vicinity. Radio marking and tracking released birds is a

future goal that would help in determining how they disperse, and the location of previously undiscovered dancing grounds that might be active."

In 2006, Roger Hill was in the Anthon area last spring, and was unable to locate any displaying birds, or find any action on former lek areas. This is a continuing progression of what we have observed for the past several years. Even after the 2001 release, we didn't see any increase in the number of birds on the lek the following spring. I have received reports of birds in Eastern Nebraska, so perhaps our releases are helping that area more than the area near Anthon. Since continual genetic influx seems critical to successful populations, we're probably seeing the inevitable taking place. John Toepfer would tell us that we don't have a chance of having a viable population without a connection with one of the large established populations of grouse. Our best bet might be if we can connect with S.D. on a regular basis to provide new birds to enhance genetic diversity. With Ethanol production arriving at the fore front we might have experience the "last hurrah" for grassland birds as lots of CRP returns to rowcrop again.

Total sightings for 2006 are as follows:

- 6 adult sized birds were seen on the West side of the Little Sioux River on the Curtin Property.
- 3 adult sized birds were seen on the East side of the Little Sioux River on the Sokoloski Property.

2006 was a pretty meager sighting year for Sharptails.

TRUMPETER SWAN RESTORATION

Prior to the settlement of Iowa, trumpeter swans nested throughout the state. However, wetland drainage and unregulated hunting of trumpeters soon brought their demise. Prior to 1998, the last wild nesting trumpeter swan in Iowa occurred in 1883 on the Twin Lakes Wildlife Area southwest of Belmond, Iowa in Hancock County. The first modern day hatch of three wild trumpeter swan cygnets occurred in 1998 in Dubuque County. This pair hatched 5 in 1999, 5 again in 2000, 4 in 2001, 5 in 2002 and 4 in 2003.

In 2000, a second pair nested on a Winnebago County Conservation Board wetland (Russ Tract at Thorpe Park) 7 miles west of Forest City. This pair had 5 eggs. Unfortunately none hatched. We did however, augment the nest with a sixth egg and it hatched providing this pair with a young cygnet to help bond the pair to the wetland nest site.

Trumpeter swans were first given nationwide protection in 1918 when the United States, Canada, and Mexico signed the International Migratory Bird Treaty. A nationwide swan count in the early 1930s showed that only 69 existed in the continental United States with all those occurring in Red Rock Lakes National Wildlife Refuge in southwest Montana. The Red Rock Lakes became the nation's first National Wildlife Refuge because of the presence of these trumpeter swans.

In 1993, the Iowa Department of Natural Resources developed a plan to restore trumpeter swans to the state. Our original goal was to establish 15 wild nesting pairs to the state by the summer of 2003. That goal was reached in 2004. Our updated goal was to have 25 wild nesting pairs in Iowa by 2006, and that goal was reached in 2005. Our 2nd goal is to use the swans to promote the many positive values of wetlands not only for wildlife habitat for many rare and endangered plant and animal species, but for water quality and flood reduction.

Iowa trumpeter swans are being obtained from 26 different states, from zoos, private propagators, other state swan projects, and any other sources that might have swans available. We have continued establishing flightless breeder pairs at appropriate sites, the young of which the DNR releases for free flight. Fifty-eight partnership breeding pair sites are currently established. All trumpeter swans released in Iowa are marked with plastic green or red neck collars and leg bands, along with U.S. Fish and Wildlife Service metal leg bands. The plastic neck and leg bands are marked with alpha letters C, F, H, J, K, P, T, and numbers 00 through 99. Many of the early FWS leg bands were made of soft aluminum metal and several of these dropped off. In 2004 we began using lock-on stainless steel FWS leg bands.

We are trying to obtain as much outside funding as possible and we are the fortunate recipients of $165,000 in memory of David A. and Robert Luglan Sampson, formerly of Webster City. Numerous individuals, organizations, and corporations have contributed significant smaller dollar amounts. Considerable soft match in-kind contributions have also been made and are conservatively estimated at over $600,000. The Trumpeter Swan Program was also awarded a State Wildlife Grant (SWG) in 2004.

Table 10.1 shows the number of trumpeter swans released and their release sites in Iowa since 1994. Seventy-seven swans were released throughout Iowa in

2004. In 2005, 115 swans were released and in 2006, 70 trumpeters were released. After six years of migration observations, most migrating Iowa swans are wintering in northeast and east-central Kansas and northwest and west-central Missouri. One Iowa trumpeter swan wintered as far south as Oklahoma during the winter of 1998/1999. Also, one swan wintered near Heber Springs, Arkansas in 1999/2000. During the winter of 2002-2003, 2 swans released at Hottes Lake near Spirit Lake, Iowa, migrated to Lubbock, Texas (the southern most migration) and spent the winter there. These are possibly the first known, or at least the first of very few interior swans to migrate to Texas since the 1880's. In 2001, the swans that nested at Union Slough NWR and Mallard Marsh wintered in southwest Arkansas. In the winter of 2003/2004, a record 35 free flying trumpeter swans wintered near Webster City, Iowa. An estimated 75 to 100 trumpeter swans wintered in the state in 2003/2004. "Traditional" swan wintering sites are developing in Iowa. During the winter of 2004/2005, 15 trumpeters staged and spent a portion of their winter at private partner Bob & Mary Boock's property near Wheatland in east central Iowa. Twenty-four swans staged and spent most of the winter on a rock quarry pit in Atlantic in southwest Iowa. On Bill Beemer's Pond, a private partner site near Webster City, 61 trumpeter swans spent the winter and another dozen staged on that area before moving further south. During 2005/2006, the number of wintering/staging swans at Wheatland and Atlantic remained the same. At Bill Beemer's the wintering swans increased to 74 and near Mason City, Iowa on the Winnebago River, 13 free flying swans appeared. In 2005/2006, nearly 150 trumpeters wintered in Iowa. If swans can find open water during the winter, many of them will remain throughout the state. These "winter" sites have provided many people the opportunity to view this "charismatic-mega fauna."

Migration movements "out of that norm" included 3 swans released at Union Slough NWR that migrated to and wintered in southeast Colorado near Ft Lyon. Two of these were observed at Monticello, Minnesota in the spring of 1997. The straight-line round trip mileage for these birds is over 1300 miles. We have been disappointed that several of our marked swans have lost both plastic neck collars and legs bands and a few have lost the metal USFWS leg bands. This does create problems analyzing both movements and mortality of Iowa Trumpeter Swans.

A review of the last 10 years of swan sightings indicates most areas of the state are now seeing swans at sometime during the year. This is another indication that the restoration effort, although slow, is moving forward. During 2006, 29 of our partnership pairs' nests hatched, producing nearly 90 young. Ten additional nests failed to hatch and about 20 dozen of the nearly 90 cygnets have died of various causes. The invasion of West Nile Virus into Iowa had us cautiously concerned, but at this point we have seen little impact on the trumpeter swans. A new concern could be avian influenza. We hope, if that does occur, impacts will be minimal. We continue to obtain several cygnets from a few other states and zoos across the nation, including the National Zoo in Washington D.C. and the Great Plains Zoo in Sioux Falls, South Dakota. Unless we have unfortunate luck, we should be able to release nearly 70 swans during the spring of 2007. The DNR is excited about the future of trumpeter swans in the state.

Unfortunately, the Iowa swan program experienced unusually high mortality in the fall of 2003. There were 10 confirmed swan shootings, 2 confirmed, 2 suspected/unconfirmed shootings in Iowa. There were 6 confirmed shootings of Iowa swans out-of-state, (1 in Wisconsin, 5 in Texas). A $17,000 fined was charged to four men in connection with the family group of 5 Iowa swans shot in Texas.

Thru 2005, 113 known mortalities to date includes: 28 have died in power line collisions, 39 poached by violators, 8 died due to lead poisoning, 5 due to apparent malnutrition, 22 to disease, and 11 died of unknown causes. Several other mortalities have likely occurred from unknown causes. Mortality rates are somewhat higher than anticipated and will likely slow trumpeter swan restoration efforts, although our swan nest attempts are still showing sizable increases. Iowa currently has the dubious distinction of having the highest shooting mortality of any state in the Midwest. We hope that with increased publicity, additional enforcement efforts and public scrutiny, we will see the illegal shooting greatly reduced. Shooting trumpeter swans results in a citation of $1500 in liquidated damages, court costs, and perhaps hunting license revocation. During the summer of 2006, we tallied 28 nest attempts. Drought during this summer has undoubtedly caused some cygnets to die prematurely.

A major milestone was reached in 1998, 1999, and again in 2000, when the first and second free-flying trumpeters nested in Iowa since 1883. Five free flying swans have bonded and mated with 5 captive/pinioned swans and have produced eggs. Besides these, we apparently have several pairs of Iowa swans nesting in Southern Minnesota and Wisconsin. The one near Mankato, MN and the one near Potosi, WI are the southern most nesting swans in the respective states. At least one Iowa bird, a male, was part of a nesting pair on the north shore of Lake Ontario. In 2001, 9 trumpeter swan nest attempts occurred in Iowa. Six of these hatched and produced 19 young. Seventeen of these were surviving as of September 1, 2001. High mortality of adults from illegal shootings had us greatly concerned during the past 2 years that we would not have very many wild nesting swans during the springs of 2002 and 2003. However, in 2002, we had 8 nest attempts in Iowa and 2 Iowa pairs nesting on the Wisconsin side of the Mississippi River. In 2003, we had 13 wild trumpeter swans nest attempts in Iowa and the same 2 Iowa pair nesting on the Wisconsin side of the Mississippi River producing a record 44 young in the wild. In 2004, we had 4 new wild nesting pairs in Iowa, with a total of 14 wild trumpeter swans nest attempts in Iowa, 9 were successful. Figure 10.1. Several additional Iowa released Trumpeter were reported nesting in MN and WI this year. In 2004, a pair of Iowa trumpeter swans nested unsuccessfully near Chillicothe, MO., giving hope that swans will nest on some farm ponds and perhaps our restoration efforts will spill over into Missouri. This pair has successfully hatched 3 cygnets near Dawn, MO, a few miles from their unsuccessful nest attempt of the previous year. Since 1998, 109 known trumpeter swan nests have occurred in Iowa, 41 of which hatched at least one egg. Also see the attached addendum for a fact sheet review of Iowa's up-to-date Trumpeter Swan Restoration successes. In 2005 Iowa had 26 known wild trumpeter swan nest attempts and in 2006 we tallied 28 known nest attempts. In 2005 a pair of Iowa

swans successfully hatched near Dawn, MO, the first trumpeter nesting in Missouri in nearly 140 years.

The same Missouri pair of trumpeters unsuccessfully nested in 2006, when their nest was flooded out because of high water conditions. However , a new milestone occurred in 2006 when a pair of Iowa trumpeter swans nested for the first time in nearly 160 years near Savanna, IL.

Iowa has and continues to be a major player in the increase and expansion of the interior trumpeter swan restoration efforts. The Iowa DNR believes that it is approaching sustainability of trumpeter swan in the state. Because we have the largest contingency of captive producing trumpeters in the U.S., we are planning to cooperate with the Trumpeter Swan Society and interested southern states and release trumpeter swans in their respective states. The intent is to see if these released swans will migrate north the first year and then in succeeding years return south to winter with additional swans from the northern states.

The Trumpeter Swan Society has made this one of their goals since its inception. Iowa trumpeter swan production will allow this goal to be tested to see if additional southward migration can be enhanced. The winter of 2007/2008 is the target date to begin this effort which probably will continue for at least 3 years. The proposal to release swans further south will need to be approved by both the Mississippi and Central Flyways.

The attached addendum is a summarized fact sheet of Iowa's up-to-date trumpeter swan restoration successes.

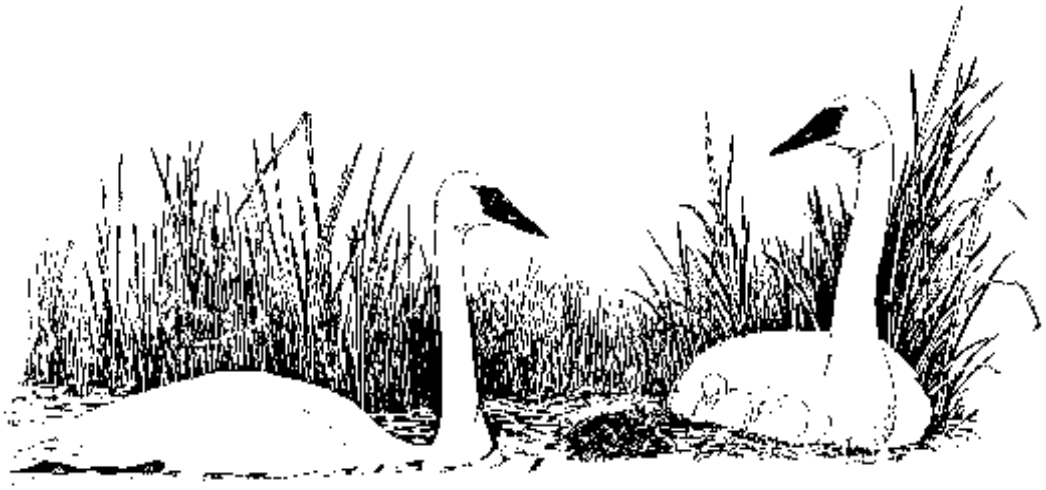


Table 10.1 Trumpeter swans released in Iowa, 1994 - present.

Site	Year	Area	County	Males	Females	Total
1	1994	Ventura Marsh	Cerro Gordo	Unk.	Unk.	4
2	1995	Kettleson's WPA	Dickinson	5	5	10
3		Jim Foreman's	Dubuque	2	2	4
2	1996	Kettleson's WPA	Dickinson	7	4	11
4		Union Slough NWR	Kossuth	5	5	10
5		Spencer	Clay	3	1	4
6		Anderson Lake	Hamilton	2	2	4
7		Harold Brun's	Lee	0	2	2
1	1997	Ventura Marsh	Cerro Gordo	3	6	9
2		Kettleson's WPA	Dickinson	3	5	8
8		Lost Island Marsh	Palo Alto	4	4	8
9		Eagle Lake	Hancock	4	4	8
10		Goose Lake	Greene	1	1	2
2	1998	Kettleson's WPA	Dickinson	5	3	8
4		Union Slough	Kossuth	5	5	10
5		Spencer	Clay	1	2	3
6		Anderson Lake	Hamilton	3	3	6
11		Bill Colwell	Black Hawk	1	3	4
12		Goose Lake	Clinton	1	5	6
13		Bjorkboda Marsh	Hamilton	1	1	2
14		Cheever Lake	Emmet	4	4	8
15		Cone Marsh	Louisa	3	3	6
16		Don Holzer	Dubuque	2	1	3
3		Jim Foreman	Dubuque	0	1	1
2	1999	Kettleson's WPA	Dickinson	3	3	6
4		Union Slough NWR	Kossuth	2	2	4
18		Green Island	Jackson	3	3	6
19		Henry Bohlen	Des Moines	1	1	2
20		Union Hills	Cerro Gordo	3	3	6
21		Myre Slough	Winnebago	3	3	6
22		East Twin Lake	Hancock	3	3	6
23		Mallard Marsh	Cerro Gordo	3	3	6
2	2000	Kettleson's WPA	Dickinson	6	6	12
4		Union Slough NWR	Kossuth	2	4	6
11		Bill Colwell	Black Hawk	3	7	10
12		Goose Lake	Clinton	2	4	6
14		Cheever Lake	Emmet	2	4	6
16		Don Holzer	Dubuque	2	1	3
23		Mallard Marsh	Cerro Gordo	1	1	2
24		Cherokee County	Cherokee	2	1	3
25		Little Storm Lake	Buena Vista	1	1	2
26		Four Mile WPA	Emmet	2	4	6
27		Joice Slough	Worth	3	3	6
28		Lake Sugema	Van Buren	5	2	7
29		Muskrat Slough	Jones	3	3	6
30		Pickeral Lake	Clay	4	3	7
31		Pin Oak Bottoms	Lucas	1	1	2
32		Rock Creek	Clinton	3	3	6
33		Thorpe Park	Winnebago	1	0	1
2	2001	Kettleson's WPA	Dickinson	5	3	8

	Year	Area	County	Males	Females	Total
11	2001	Bill Colwell	Black Hawk	2	2	4
13		Bjorkboda Marsh	Hamilton	1	1	2
15		Cone Marsh	Louisa	2	2	4
20		Union Hills	Cerro Gordo	3	3	6
24		Cherokee County	Cherokee	1	2	3
30		Pickeral Lake	Clay	2	2	4
31		Pin Oak Bottoms	Lucas	1	1	2
33		Thorpe Park	Winnebago	1	1	2
34		Big Wall Lake	Wright	4	1	5
35		Dick Block	Clinton	1	1	2
36		Blue Wing Marsh	Palo Alto	4	2	6
37		Colyn Marsh	Lucas	2	2	4
38	`	Crawford Creek	Ida	2	2	4
39		Dunbar Slough	Greene	1	0	1
40		East Slough	Emmet	5	1	6
41		Killen Wetland	Steele, MN	1	1	2
42		Kiowa Marsh	Sac	3	1	4
43		Lake Wapello	Davis	1	1	2
44		Kirby Roberts	Calhoun	1	2	3
45		Princeton WMA	Scott	3	4	7
46		Buena Vista WMA	Scott	1	1	2
47	2002	Amana Forestry	Iowa	3	1	4
49		Big Mill Pond WMA	Jackson	1	1	2
50		Center Lake	Dickinson	1	1	2
51		Clark Lake	Cerro Gordo	1	1	2
52		Virgil Cole's WRP	Van Buren	2	2	4
40		East Slough WMA	Emmet	2	2	4
22		East Twin Lake	Hancock	1	1	2
53		Elmer Kettleson	Clinton	0	2	2
2		Kettleson's WPA	Dickinson	3	3	6
54		Hurstville Marsh	Jackson	1	1	2
17		Duane Kennedy	Dubuque	1	1	2
43		Lake Wapello	Davis	1	1	2
55		Lizard Lake	Pocahontas	1	1	2
23		Mallard Marsh	Cerro Gordo	1	1	2
56		New Hartford	Butler	1	0	1
57		Ralph Steines Marsh	Clinton	1	1	2
32		Rock Creek Park	Clinton	0	1	1
58		Smith Slough	Clay	2	2	4
59		South Twin Lake	Calhoun	3	2	5
33		Thorp Recreation Area	Winnebago	1	1	2
60		Richard Baack Wetland	Cerro Gordo	1	1	2
4		Union Slough NWR	Kossuth	2	2	4
1		Ventura Marsh	Cerro Gordo	1	1	2
61		White's Pond	Clinton	2	0	2
6	2003	Anderson Lake	Hamilton	1	1	2
62		Anderson Wildlife Area	Montgomery	1	1	2
63		Artesian Marsh	Carroll	1	1	2
11		Beaver Valley Wetland	Blackhawk	2	2	4
49		Big Mill Pond WMA	Jackson	0	2	2
34		Big Wall Lake	Wright	1	1	2

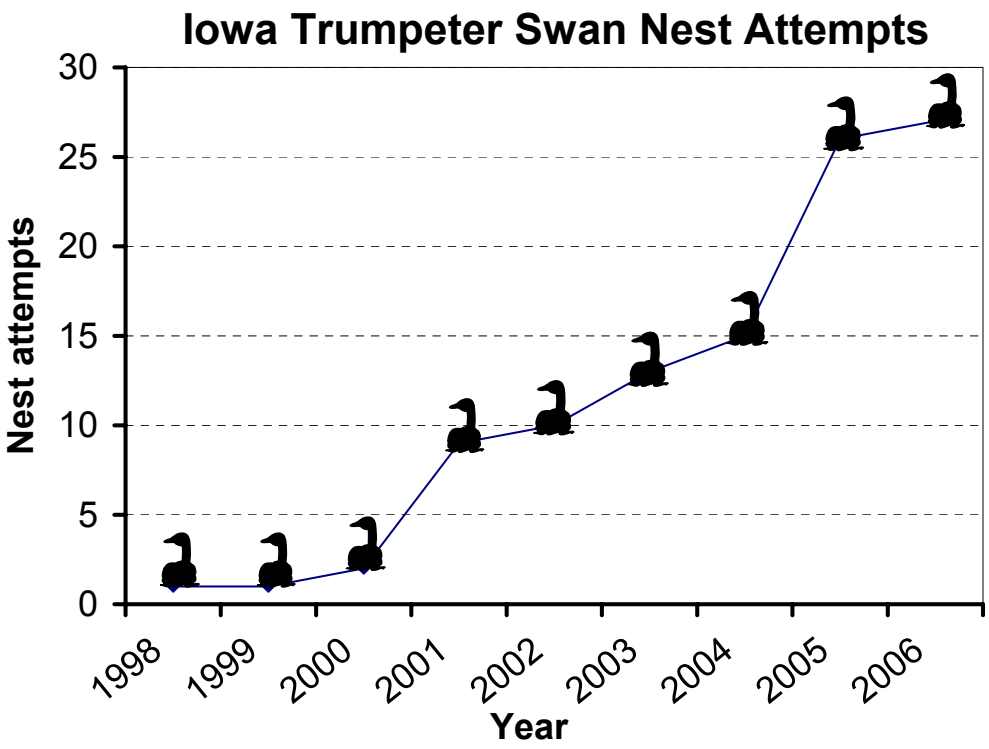
	Year	Area	County	Males	Females	Total
13	2003	Bjorkboda Marsh	Hamilton	1	1	2
57		Robert Boock, Jr.	Clinton	1	1	2
32		Bulgers Hollow	Clinton	1	1	2
51		Clark Lake	Cerro Gordo	0	2	2
15		Cone Marsh	Louisa	2	1	3
24		Cherokee County	Cherokee	0	4	4
39		Dunbar Slough	Greene	2	1	3
64		Eagle Lake	Kossuth	1	1	2
40		East Slough WMA	Emmet	0	2	2
32		Gomer's Marsh	Clinton	0	2	2
65		Gordon's Marsh	Hamilton	1	1	2
18		Green Island	Jackson	1	1	2
2		Kettleson's WPA	Dickinson	1	2	3
44		Kirby Roberts	Calhoun	2	0	2
43		Lake Wapello	Davis	3	2	5
66		Negus Rec. Area	O'Brien	1	1	2
60		Paul Willis Wetland	Cerro Gordo	1	1	2
30		Pickeral Lake	Clay	3	1	4
67		Preparation Canyon	Monona	1	0	1
57		Ralph Steines Marsh	Clinton	1	1	2
60		Richard Baack Wetland	Cerro Gordo	1	1	2
68		Rush Lake WMA	Palo Alto	1	1	2
58		Smith Slough	Clay	1	1	2
59		South Twin Lake	Calhoun	1	1	2
20		Spillman's WMA	Cerro Gordo	0	2	2
20		Union Hills	Cerro Gordo	2	2	4
69		Cummings Orchard	Warren	4	1	5
6	2004	Anderson Lake	Hamilton	1	1	2
70		Archer/Dole Wetland	Appanoose	1	1	2
62		Anderson Wildlife Area	Montgomery	1	1	2
71		Barringer Slough	Clay	1	1	2
11		Beaver Valley Wetland	Blackhawk	2	2	4
49		Big Mill Pond WMA	Jackson	1	1	2
34		Big Wall Lake	Wright	1	1	2
13		Bjorkboda Marsh	Hamilton	1	1	2
1		Blue Wing Marsh	Cerro Gordo	1	1	2
36		Blue Wing Marsh	Palo Alto	1	1	2
72		Bruegmann Area	O'Brien	1	1	2
51		Clark Lake	Cerro Gordo	1	1	2
73		Couny Home Farm	Winnebago	2	0	2
74		Crystal Lake	Clinton	1	1	2
75		Goose Lake	Kossuth	1	1	2
76		Gordon Garrison	Emmet	1	1	2
65		Gordon's Marsh	Hamilton	1	1	2
18		Green Island WMA	Jackson	1	1	2
77		Hidden Valley	Floyd	1	0	1
2		Kettleson's WPA	Dickinson	1	1	2
43		Lake Wapello	Davis	1	1	2
78		Morman Trail Lake	Adair	3	1	4
12		Pete Clausen's Wetland	Clinton	1	1	2
30		Pickeral Lake	Clay	2	0	2
60		Richard Baack Wetland	Cerro Gordo	1	1	2

Site	Year	Area	County	Males	Females	Total
32	2004	Rock Creek	Clinton	7	5	12
68		Rush Lake WMA	Palo Alto	1	1	2
33		Thorpe Rec. Area	Winnebago	1	1	2
20		Union Hills	Cerro Gordo	2	2	4
1		Ventura Marsh	Cerro Gordo	0	1	1
61		White's Pond	Clinton	0	1	1
6	2005	Anderson Lake	Hamilton	1	1	2
62		Anderson Wildlife Area	Montgomery	2	2	4
79		Artesian Marsh	Ida	0	2	2
11		Beaver Valley Wetland	Blackhawk	1	1	2
49		Big Mill Pond WMA	Jackson	1	1	2
13		Bjorkboda Marsh	Hamilton	0	2	2
72		Bruegmann Area	O'Brien	0	2	2
80		Buckshot Lake WMA	Appanoose	2	1	3
81		Cardinal Marsh WMA	Winneshiek	1	1	2
82		Chichaqua WMA	Polk	1	1	2
83		Chuck Lenze Wetlands	Dallas	3	1	4
51		Clark Lake	Cerro Gordo	1	1	2
73		Couny Home Farm	Winnebago	1	1	2
38		Crawford Creek	Ida	1	1	2
74		Crystal Lake	Clinton	1	1	2
40		East Slough	Emmet	0	2	2
84		Goberson's Wetlands	Ida	1	1	2
32		Gomer's Marsh	Clinton	2	2	4
10		Goose Lake	Greene	1	1	2
75		Goose Lake	Kossuth	1	1	2
65		Gordon's Marsh	Hamilton	1	1	2
18		Green Island	Jackson	1	1	2
84		Hendrickson Marsh	Story	1	2	3
77		Hidden Valley	Floyd	1	1	2
2		Kettleson's WPA	Dickinson	1	1	2
85		Lake Anita	Cass	2	2	4
43		Lake Wapello	Davis	1	3	4
86		Lakin Slough	Guthrie	1	1	2
87		Larry Conmy Wetland	Jones	2	0	2
8		Lost Island Marsh	Palo Alto	1	1	2
88		Otter Creek WMA	Tama	0	4	4
30		Pickeral Lake	Clay	1	3	4
31		Pin Oak Bottoms	Lucas	1	1	2
57		Ralph Steines Marsh	Clinton	1	1	2
68		Rush Lake WMA	Palo Alto	1	1	2
89		Simonsen's Pond	Ida	1	1	2
90		Sunken Grove WMA	Pocahontas	2	2	4
91		Laurie & Tony Severe	Floyd	6	7	13
92		Three Mile Lake	Union	2	2	4
1		Ventura Marsh	Cerro Gordo	1	1	2
93		Walker Slough	Wright	0	2	2
94		Wildwood Acres	Jones	1	1	2

Site	Year	Area	County	Males	Females	Total
6	2006	Anderson Lake	Hamilton	1	1	2
71		Barringer Slough	Clay	1	1	2
11		Beaver Valley Wetland	Blackhawk	1	1	2
13		Bjorkboda Marsh	Hamilton	1	1	2
		Bob Boock Pond	Clinton	1	0	1
		Brownsville Wildlife Area	Mitchell	2	0	2
32		Gomer's Marsh	Clinton	1	1	2
		Burrows Pond	Sac	1	2	3
81		Cardinal Marsh WMA	Winneshiek	1	1	2
		Cherokee CCB wetlands	Cherokee	2	1	3
83		Chuck Lenze Wetlands	Dallas	1	1	2
51		Clark Lake	Cerro Gordo	1	1	2
38		Crawford Creek	Ida	1	1	2
		Alan Currans Wetland	Appanoose	1	1	2
		Dave Dierks Pond	Scott	1	1	2
		Early Lagoon	Sac	1	0	1
40		East Slough	Emmet	1	1	2
		Folletts	Clinton	1	1	2
65		Gordon's Marsh	Hamilton	1	1	2
2		Hottes Lake	Dickinson	1	1	2
85		Lake Anita	Cass	1	1	2
43		Lake Wapello	Davis	1	1	2
86		Lakin Slough	Guthrie	1	1	2
91		Laurie & Tony Severe	Floyd	0	3	3
25		Little Storm Lake	Buena Vista	3	1	4
8		Lost Island Marsh	Palo Alto	1	1	2
		Becker's Pond	Hamilton	1	0	1
60		Paul Willis Wetland	Cerro Gordo	0	2	2
		Strucek's Wetland	Kossuth	1	1	2
		Swan Lake	Pocahontas	2	2	4
92		Three Mile Lake	Union	1	1	2
1		Ventura Marsh	Cerro Gordo	1	1	2
		White Rock	Guthrie	1	1	2
				Grand	**Total**	762

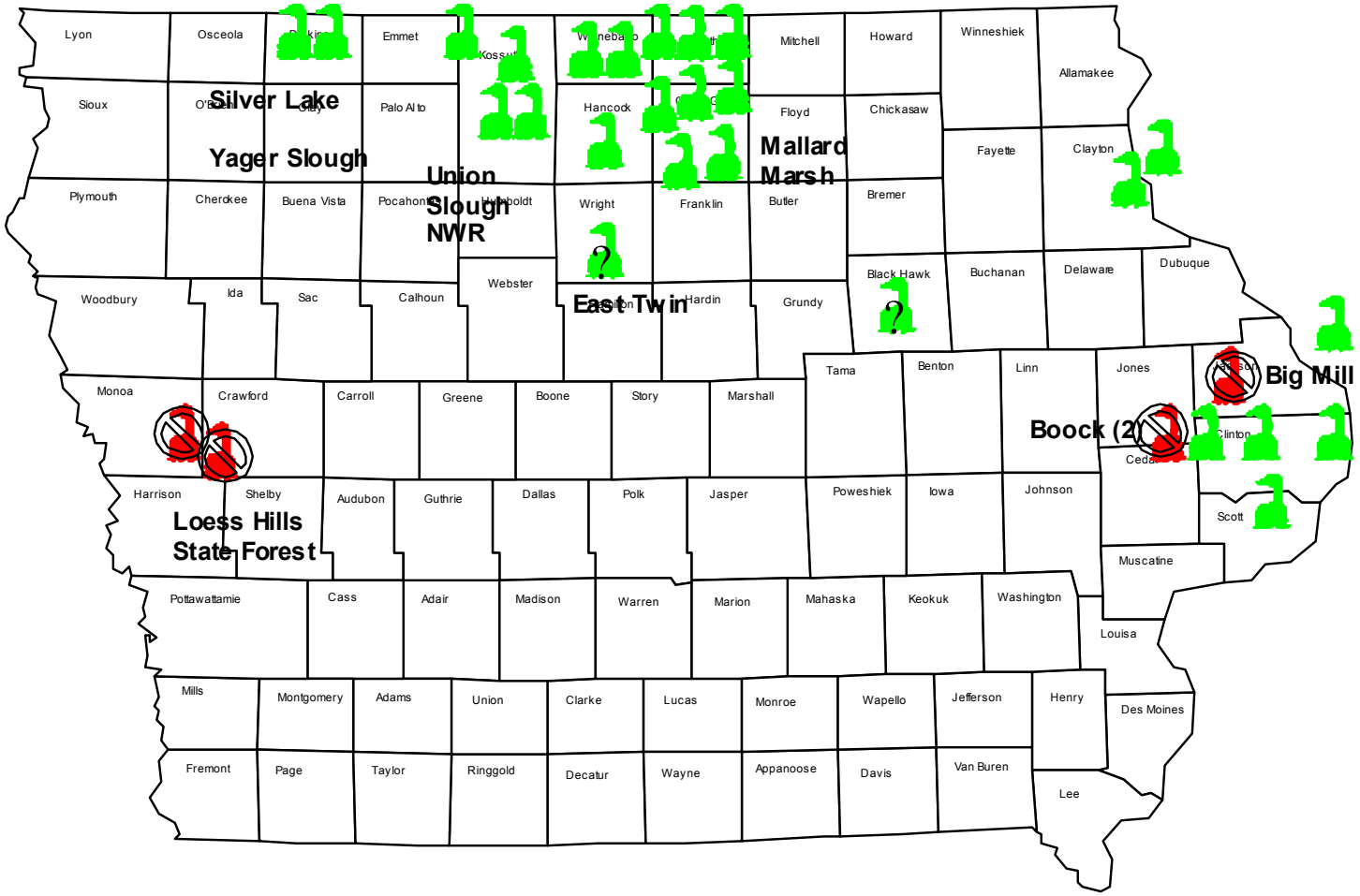
Table 10.2. Wild free flying Trumpeter swans banded and released in Iowa, 1997 - present.

Year	Area	County	Males	Females	Total
1997	Miller's Quarry	Black Hawk	0	1	1
1998	Holzer's Pond	Dubuque	2	1	3
1999	Mason City	Cerro Gordo	3	2	5
2000	Holzer's Pond	Dubuque	2	1	3
2000	Mason City	Cerro Gordo	2	2	4
2000	Stark/Nessa Quarry	Hamilton	2	0	2
2001	Dunbar Slough	Greene	1	0	1
2001	Kennedy's Pond	Dubuque	1	1	2
2002	Holzer's Pond	Dubuque	3	1	4
2002	Schildberg Gravel Quarry	Cass	1	4	5
2002	East Twin Lake	Hancock	2	0	2
2003	Schildberg Gravel Quarry	Cass	2	2	4
2004	Schildberg Gravel Quarry	Cass	5	7	12
2004	Beemer's Pond	Hamilton	3	5	8
2005	Stark/Nessa Quarry	Hamilton	5	0	5
2006	Beemer's Pond	Hamilton	4	2	6
2006	Schildberg Gravel Quarry	Cass	0	1	1
			Grand	**Total**	68


Iowa Trumpeter Swan Nest Attempts
Nest attempts
30
25
20
15
10
5
0
1998
1999
2000
2001
2002
2003
2004
2005
2006
Year

Wild Trumpeter Swan Nest in 2006

28 nest attempts



Iowa's Trumpeter Swan Restoration Program

By Ron Andrews & Dave Hoffman

February 16, 2006

* Last Historical Nesting 1883 @ Twin Lakes in Hancock Co.
- 1994 Mississippi Flyway Sanctioned and Approved. Field Work Initiated in 1995.
- Goals—(1) 15 Wild nesting Pair by 2003. Revised Goal 25 pair by 2006.
  (2) Promote the Many Values of Wetlands.
- First Modern Day Nesting Pair in 1998 & 99 Private Pond Dubuque Co.
- Second pair 2000 Thorpe Park Wetlands, Winnebago Co.
- 2001, 9 Wild Nesting Attempts. 26 cygnets hatched: ~ 19 to flight stage.
- 2002, 10 Wild Nesting Attempts. 37 cygnets hatched: ~ 27 to flight stage.
- 2003, 13 Wild Nesting Attempts. 53 cygnets hatched: ~ 36 to flight stage.
- 2004, 15 Wild Nesting Attempts. 44 cygnets hatched: ~ 36 to flight stage.
- 2005, 26 Wild Nesting Attempts. 87 cygnets hatched: ~ 67 to flight stage.
- Several of the Iowa released Trumpeters Swans have nested in Southern Minnesota and Wisconsin and one successful nest occurred in Missouri in 2005.
- To date, 685 Trumpeter Swans Have Been Released; 113 were released in 2005. We will have approx. 80 to release in 2006.
- We have 55 Flightless Partnership Pairs that produce the greatest share of our one year old cygnets for release. We are also obtaining cygnets from U.S. Zoos as the opportunities arise.
- Iowa Trumpeter Swans have been reported in 15 states and 2 provinces of Canada.
- Traditional migration/wintering sites in Iowa are developing including 74 near Webster City, 24 @ Atlantic, 13 near Wheatland, IA., 15 near Mason City. Scattered (smaller #s) at other sites.
- ~ 186 Trumpeter Swans wintered in Iowa during the winter of 2005-06.
- 197 known mortalities have occurred to date—39 from power line collisions, 41 poached by violators, 22 from diseases, 7 from Lead poisoning, 7 from predators and 81 from unknown causes.
- Shooting Trumpeter Swans in Iowa results in a $1500 fine and court costs and possible hunting license revocation.
- Iowa Trumpeter Swans were initially neck-collared with green, then red collars' both with 2 white numbers & 1 white letter & a corresponding plastic & FWS lock on band.
- The Iowa Trumpeter Swan database currently exceeds 3,500 observations.
- For Additional Trumpeter Swan information see the following web sites: Iowa Department of Natural Resources www.iowadnr.com , the ISU Trumpeter Swan committee http://www.stuorg.iastate.edu/swan/ , the Trumpeter Swan Society www.trumpeterswansociety.org . During the nesting season a nesting pair of swans can be observed on a web cam at www.osage.net/~mccb .
- For more information or questions concerning Trumpeter Swans contact Ron Andrews or Dave Hoffman, Iowa Trumpeter Swan Restoration Coordinators, Iowa Department of Natural Resources, 1203 North Shore Drive, Clear Lake, IA. 50428. Office Phone # 641-357-3517. E-mail Address: Ron.Andrews@dnr.state.ia.us or David.Hoffman@dnr.state.ia.us

OSPREY RESTORATION

Osprey, Pandion haleatus, commonly called the fish hawk or fish eagle, is neither a true hawk nor eagle. Ospreys are cosmopolitan and occur worldwide with the exception of Antarctica. The species is of ancient lineage and presently is classified near the kite family. There are four subspecies presently recognized, two occurring in North America, P.H. carolinenses and P.H. ridgwayi. Ridgwayi is found in the Bahamas and Caribbean, while carolinensis is the Midwestern species. Carolinensis is migratory in its northern range and resides in south Florida and possibly part of the Gulf coast and northwest Mexico.

Ospreys were never confirmed to historically nest in Iowa, but were probably here given the abundance of lakes and wetlands that dotted the prairie. Ospreys are very unwary birds and territorially appear weak. Pairs will nest colonially. Nests may be upon structure, manmade or natural, that provides a platform, but Ospreys have been known to nest on the ground. Nests are generally at least one-foot deep and four to five feet wide, are made of sticks and lined with grass. Highest productivity is attained on power poles and nesting platforms.

Ospreys were heavily affected by the biocide crash of the 1950s. Populations were severely reduced throughout the range but hardest hit in the Great Lakes and Atlantic coast. A strong fidelity to ancestral breeding areas slowed range expansion into vacant and newly created habitat since the DDT era.

With construction of lakes by Department of Natural Resources and reservoirs by U.S. Army Corps of Engineers, potential osprey habitat exists that was previously not available. There are numerous osprey summer sightings in Iowa, but apparently these young, non-breeding ospreys return to northern areas for mating and nesting. Despite this population growth, ospreys have demonstrated little breeding range expansion. Minnesota and Wisconsin DNR officials suggest that ospreys, in our lifetime, do not readily pioneer new breeding ranges. Instead they experience suppressed reproduction as density of breeders increase. To address this issue, young ospreys from Wisconsin and Minnesota are being relocated to areas with suitable habitat in southern Minnesota, Iowa, Kansas, Missouri and Ohio.

The Iowa Department of Natural Resources has assisted conservation partners with technical assistance, encouragement, and fish to successfully release ospreys in Iowa. The Macbride Raptor Project located near Coralville Reservoir has spearheaded this work. Beginning in 1997 four or five young ospreys have been released annually at their facility until 2002. Personnel at the Hartman Reserve Nature Center and volunteers in Cedar Falls initiated a release at their facility in 1998. Staff of Boone County Conservation Board and Polk County Conservation Board with volunteers coordinated a release at Saylorville Reservoir in 2000. Boone Co. staff and volunteers began releases at Don Williams Lake in 2003. Wickiup Hill in Linn Co. and Clear Lake were added in 2004. The U.S. Army Corps of Engineers has provided distinguished service for releases at Coralville and Saylorville Reservoir respectively. Assisted by literally hundreds of

volunteers, these conservation organizations have devoted their efforts to bring ospreys to Iowa as a nesting species. A four-year minimum commitment of releasing ospreys is required at each site. Project fundraising is the responsibility of the conservation organizations doing the releases. Ospreys cost about $500 per bird.

In Iowa, ospreys have two bands, a silver U.S. Fish and Wildlife Service band and a numbered, **lavender** band on separate legs. Forty-eight ospreys have been released at the three sites since 1997.

Beginning in 2000 Osprey released in SW Minnesota by Minnesota DNR, built a nest atop a microwave tower near Cayler Prairie in NW Iowa. In late winter Great-horned Owls were seen at the nest and tending young, however by April the Ospreys were once again nesting at the site. Incubation appeared to be progressing, but ultimately the nesting attempt failed. It was believed extremely violent storms were a factor in the demise of the nesting attempt. A second pair was also observed nest building in the Spirit Lake area. At Coralville reservoir a 1998 released Osprey was nest building with two other unidentified adult Osprey. The adults were seen feeding the year-class of 2001.

In 2002 the Spirit Lake pair nested on a platform at the outdoor classroom area of Spirit Lake school. Tim Waltz with Big Sioux Wildlife unit coordinated the pole/platform placement at the school. In early July a single egg was discovered by Ed Heidenbrink and Don Poggensee, but no young were produced at the site. Also on a pole/platform near Cayler Prairie a nest was constructed at that site.

At Coralville reservoir a nest was constructed by A5 (Macbride 1998) and an unbanded female, but apparently no eggs were laid. These birds were joined by H2 (2000 Saylorville) feeding young hacked birds. Four Wisconsin Ospreys were placed at the site. However, two young died from heat stress prior to release.

At Saylorville a pair of wild birds E4 (Hartman 2000) and E1 (Macbride 2000) appeared at the site, strafing released birds and causing excitement. Five additional osprey were hacked from the site.

At Hartman Reserve Nature Center four additional Ospreys were hacked in 2002.

In 2003 the Spirit Lake pair successfully nested at the outdoor classroom of Spirit Lake Middle School. One chick was banded July 10, 2003. It was the first Osprey chick to be banded in Iowa since European settlement of the area. The adult female was banded B/T and released in 1997 near Minnetonka, Minnesota by the Minnesota DNR. The heritage of the adult male is unknown.

Also in 2003 three Osprey chicks were produced at Macbride Recreational Area near Coralville Reservoir. The Macbride Raptor Project observed that the male, A5, was released from their facility in 1998. The female, H2, was released at Saylorville Reservoir by Polk County Conservation Board in 2000.

Fourteen additional Osprey are were released at Hartman Reserve Nature Center near Waterloo/Cedar Falls, Don Williams Lake by Boone County Conservation Board, and Saylorville Reservoir by Polk County Conservation Board. Hopefully those Ospreys will prosper and banding young will occur at their sites in 2004. In 2003,

77 Osprey have been relocated to Iowa with four wild-produced chicks.

Spring 2004 brought four nesting attempts at three sites in Iowa. At Red Rock Reservoir, unit biologist, Chuck Kakac, reported two young fledging from remote nest observed from Runnels overlook.

Unfortunately, three nest attempts failed due to extreme climatic conditions. At Macbride the nest that was successful in 2003 blew down in high winds. Male A8 (Macbride 1998) was identified at this nest. A second nest at Macbride was constructed and occupied by an unidentified pair. At Spirit Lake Outdoor Classroom same pair attempted to nest again. Birder, Ed Thelen, observed male Osprey carrying something from nest then dropping it. He discovered a newly hatched chick, dead. At Saylorville an unidentified Osprey pair built nest on a platform at west-end of Mile Long Bridge during summer.

Two new release sites were established this year. Volunteers at Clear Lake constructed a release tower at Iowa Regular Baptist Camp along north shore of Clear Lake. Linn County Conservation Board staff and volunteers at Wickiup Hill coordinated a release. Both sites released five Ospreys from Chippewa Flowage region near Hayward, Wisconsin. Also an additional rehabbed Osprey from Wisconsin was released at Wickiup Hill.

Boone County Conservation staff and volunteers placed five Wisconsin Ospreys at Don Williams Reservoir. And volunteer staff at Hartman Reserve Nature Center placed four Wisconsin Ospreys at their site. Polk County Conservation staff and volunteers placed five Minnesota Ospreys at their site at Jester Park on banks of Saylorville Reservoir.

A total of 25 Ospreys were placed at five sites in 2004. Since 1997 105 Ospreys have been released at six sites. Six wild produced Ospreys have fledged from Iowa nests.

Spring 2005 brought five known nesting attempts in Iowa. Unidentified pairs carried sticks and made nest attempts at Saylorville, Hartman Reserve Nature Center, Don Williams and Lake Macbride. A second nesting pair at Macbride fledged two young.

A total of five Ospreys came to Iowa from Minnesota and nineteen more were relocated from Wisconsin.

At Hartman a wild nesting pair appeared to be incubating but no hatching was noted. Four additional Wisconsin Ospreys were released.

At Don Williams a wild nesting pair carried sticks throughout summer but did not incubate. Five additional Ospreys were relocated from Minnesota.

At Clear Lake five additional Ospreys were relocated from Wisconsin.

At Linn County's site at Wickiup Hill Conservation board staff and volunteers released five additional Ospreys from Wisconsin.

A new site was constructed at Red Rock Reservoir by Marion Co. Conservation Board, DNR Parks, and Newton Correctional facility personnel. Five Ospreys were relocated from Wisconsin.

Since 1997 129 Ospreys have been released at seven sites. Eight wild Ospreys have been produced in Iowa.

A 2002 female from Saylorville, J4, paired with an unidentified male in Twin Cities. A nest was constructed and female was apparently incubating, but male disappeared. Nest failed due to poor incubation it was believed. A

replacement male was at nest site later in summer.

In 2006 there were six nesting pairs reported and four successful nesting pairs fledged eight young. A total of ten Ospreys came to Iowa from Minnesota and fifteen more were relocated from Wisconsin. There were three rehabilitated Ospreys placed at White Rock Conservancy.

At Hartman Reserve Nature Center a wild nesting pair fledged two young. Female is H8 from 2001 release and male is unknown.

At Lake Macbride personnel from Macbride Raptor Project reported two nesting pairs and one was successful. Adults J7 (Hartman 2003) and K8 (Hartman 2002) fledged two young.

At Don Williams a wild nesting pair fledged two young. However, one young was discovered dead at nest site. Necropsy revealed that it was not West Nile virus. Five additional Ospreys were relocated from Minnesota.

At Jester Park, Polk CCB report a pair

At Clear Lake five additional Ospreys were relocated from Minnesota. However two young did not survive hacking process.

At Linn County's site at Wickiup Hill, Conservation board staff and volunteers released five additional Ospreys from Wisconsin. A wild nesting pair appeared to be incubating but no chicks hatched.

At Red Rock Reservoir Marla Mertz of Marion Co. Conservation Board and DNR Parks personnel released five Ospreys from Wisconsin.

A new site was established at White Rock Conservancy where five Wisconsin Ospreys were hacked. Three rehabbed birds from The Raptor Center were also released.

Since 1997 157 Ospreys have been released at eight sites. Sixteen wild Ospreys have been produced in Iowa.

This project is in keeping with the IA DNR mission to protect, propagate, increase, and preserve the wildlife of the state (Section 456A.23, Code of Iowa, 1997). Establishing an Osprey population will improve the state's wildlife diversity and increase the public's appreciation of wetland ecology. There is a goal of five nesting pairs with the potential for another five breeding pairs located in the state by 2006.

Figure 11.1 – Wild Osprey young banded or observed

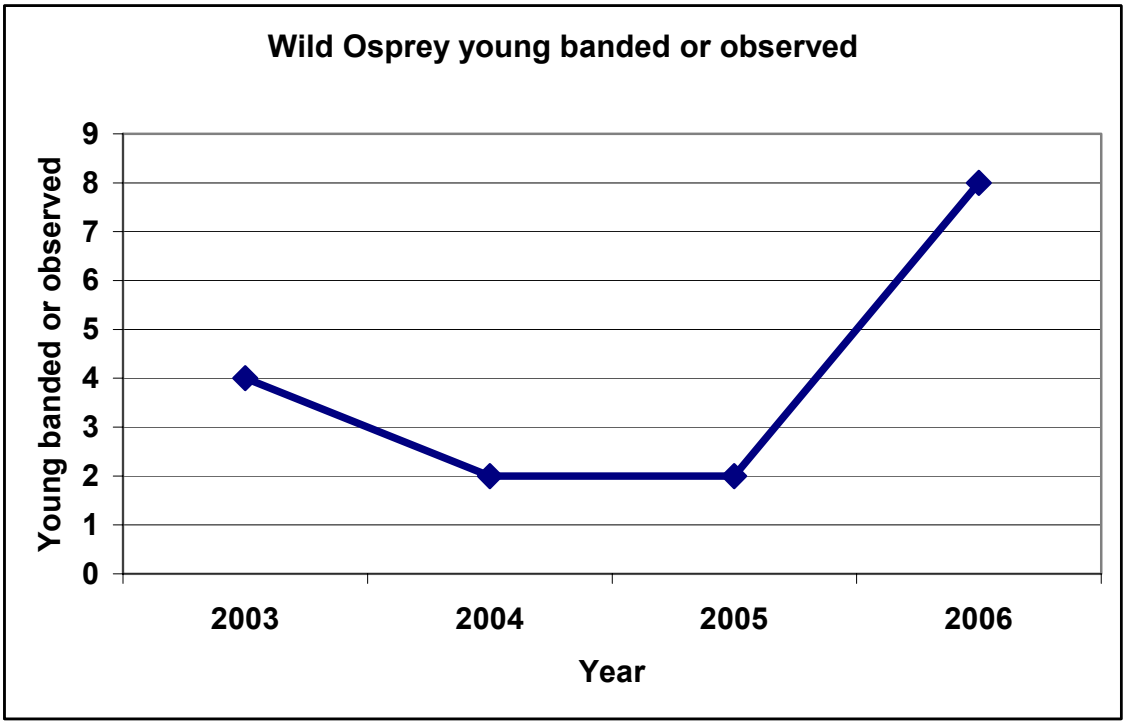


Table 13.1. Osprey releases in Iowa 1997 - Present.

Year	Location	USFWS#	Color Band	Comments
1997	Macbride Raptor Project	608-48727		
		608-48728		
		608-48729		
		608-48730		
		608-48735		
			Lavender bands	
1998	Macbride Raptor Project	608-48745	A8	nested at Macbride 2004
		608-48746	A6	
		608-48747	A5	Returned to Coralville 2001
		608-48748	A7	with two other adults, one banded- unidentified, other adult unbanded
	Hartman Reserve Nature Center	608-48741	A1	
		608-48742	A2	
		608-48743	A3	
		608-48744	A4	
1999	Macbride Raptor Project	788-23203	C1	
		788-23205	C3	
		788-23207	C5	
		788-23208	C6	
	Hartman Reserve Nature Center	788-23204	C2	
		788-23206	C4	
		788-23209	C7	
		788-23210	C8	
2000	Macbride Raptor Project	788-23212	E1	nested at Jester Park '05, fledged two '06
		788-23217	E6	
		788-23218	E7	
		788-23220	E0	
	Hartman reserve Nature Center	788-23213	E3	
		788-23214	E2	Fracture wing in box, released MRP after rehab.
		788-23215	E4	nested at Jester Park '05, fledged two '06
		788-23216	E5	
		788-23219	E8	
	Saylorville - Polk & Boone Co.	788-23223	H0	
		788-23225	H1	
		788-23222	H2	
		788-23224	H3	
		788-23221	H4	
2001	Macbride Raptor Project	788-23228	H6	
		788-23229	H7	
		788-23232	K0	
		788-23234	K2	
	Hartman Reserve Nature	788-23227	H5	
		788-23230	H8	male at Hartman, fledged two '06
		788-23231	H9	
		788-23233	K1	
	Saylorville	788-23236	A9	
		788-23235	C0	
		788-23237	C9	male at Don Williams, fledged two young 2006
		788-23238	E9	
2002	Macbride	788-23243	K3	
		788-23245	K5	
		788-23246	K6	Died heat stress
		788-40802	J3	Died heat stress
		788-40844		Rehabbed bird from Raptor Center
	Hartman	788-23244	K4	

Year	Location	USFWS#	Color Band	Comments
2002	Hartman	788-23250	K9	
		788-23248	K8	
	Saylorville	788-23241	J4	
		788-23242	J5	
		788-23249	J1	
		788-40801	J2	
		788-40803	J0	
2003	Hartman	788-49506	J6	
		788-49507	J7	
		788-49508	J8	Male at Wickiup 2006
		788-49509	J9	
	Don Williams	788-49519	N9	
		788-49510	N0	
		788-49511	N1	
		788-49512	N2	
		788-49513	N3	
	Saylorville	788-49514	N4	
		788-49515	N5	
		788-49516	N6	
		788-49517	N7	
		788-49518	N8	
2004	Hartman Reserve	788-49525	P4	
		788-49528	R1	
		788-49529	R2	
		788-49532	R5	
	Saylorville	788-49541	T3	
		788-49542	T4	
		788-49543	T5	
		788-49544	T6	
		788-49545	A0	
	Wickiup Hill	788-49523	P5	
		788-49524	P8	
		788-49526	P7	
		788-49527	P9	
		608-48749	P6	
		plus rehabbed bird		
	Don Williams	788-49534	R7	
		788-49537	R0	
		788-49530	R3	
		788-49536	R9	
		788-49533	R6	wing injury/broken bone, rehabbing at Kay Neumann's
	Clear Lake	788-49535	R8	found dead at Worth County Lake
		788-49539	T1	
		788-49540	T2	
		788-49538	T0	
		788-49531	R4	
2005	Clear Lake	788-49561	XO	
		788-49559	V8	
		788-49567	X9	
		788-49563	X2	
		788-49550	T9	
	Hartman Reserve Nature Center	788-49553	U2	
		788-49554	U3	
		788-49552	U1	
		788-49558	U7	

Year	Location	USFWS#	Color Band	Comments
	Red Rock	788-49565	X4	
		788-49549	T7	
		788-49564	X3	
		788-49566	X5	
		788-49573	Y4	
	Linn County	788-49555	U4	
		788-49557	U6	
		788-49556	U5	
		788-49562	X1	
		788-49560	U9	
	Boone County	788-49568	X7	
		788-49569	X8	
		788-49570	X9	
		788-49571	Y0	
		788-49572	Y1	
2006	Linn County	788-49584	AN	
		788-49585	AP	
		788-49586	AR	
		788-49588	AU	
		788-49589	AJ	
	Red Rock	788-49575	Y7	
		788-49576	Y8	
		788-49583	AK	
		788-49578	AA	
		788-49580	AE	
	Clear Lake	788-49594	CX	
			CT	
		788-49595	CK	Died before fledging
		788-49596	CR	
		788-49597	PC	
	Don Williams	788-49589	AX	
		788-49590	CA	
		788-49591	CC	
		788-49593	CJ	
		788-49592	CE	
	White Rock Conservancy	788-49579	AC	
		788-49574	Y6	
		788-49577	Y9	
		788-49587	AT	
		788-49581	AH	
		788-55332	none	second year rehabbed bird
		788-56050	black XF	rehabbed bird
		928-03068	black D2	rehabbed bird

SANDHILL CRANES IN IOWA

Prior to European settlement of Iowa, Sandhill Cranes probably were a common nesting species and abundant migrants. As early as 1820, Edwin James saw large flocks of cranes migrating north along the Missouri River in Harrison County. Even in the 1890's, it was not uncommon to see flocks of hundreds or even thousands of cranes in Winnebago and Hancock Counties in spring. Although there are few specific records, Sandhill Cranes probably were fairly common nesters in north-central and northwest Iowa. With settlement, the combination of unregulated hunting and loss of nesting habitat led to a rapid disappearance of nesting cranes from Iowa. The last Sandhill Crane nesting of that era was at the headwaters of the Iowa River near Hayfield in Hancock County in May 1894. As was common in those days, the eggs were taken for an egg collection.

Cranes nest in shallow wetlands with dense vegetation. They create a nest mound by pulling up marsh plants and laying one to three eggs that hatch in late spring. About three months after hatching the young begin to fly, but the brownish-colored young remain with their parents throughout their first winter. Cranes eat waste grain, seeds, berries, roots, tubers, snakes, frogs, crayfish, worms and insects.

By the early 1900s, even migrating Sandhill Cranes were rare in Iowa. For the next 60 years, there are very few reports of cranes in Iowa. Throughout the Midwest, problems similar to Iowa's caused Sandhill Crane populations to dwindle. Just a few dozen pairs remained in Wisconsin, Minnesota and Michigan through the 1940s. During the 1970s and 1980s, however, nesting populations increased in the northern states, and a few migrating sandhills were seen in Iowa.

The number of Sandhill Cranes reported in Iowa increased greatly in the late 1970s and 1980s (Dinsmore 1989), culminating in their return as a nesting species. Nesting birds derive from populations in Wisconsin, which increased greatly in the 1970s and 1980s (Robbins 1992) and eventually spilled over into Iowa. These birds winter in Florida and Georgia. The huge flocks that gather in central Nebraska nest in the Arctic. Those flocks are probably the source of most cranes seen in western Iowa (Kent and Dinsmore 1996).

In 1992, after a 98-year absence, Sandhill Cranes successfully nested in Iowa at Otter Creek Wildlife Management Area in Tama County. Two colts were produced. In 1993, cranes also attempted to nest at a second area at Green Island along the Mississippi River in Jackson County, however due to annual flooding, young were not produced at that site until 1997. In the mean time cranes at Sweet Marsh became established and successfully nested, beginning in 1994. The Sweet Marsh flock has grown to include four other sites in Bremer Co.

In 2002, Sandhill Cranes were observed in four new sites. Reports were received of cranes sited in Clinton and Chickasaw County. Allamakee County picked up another site where young were produced and in western Iowa, young were produced in Woodbury County. Cranes have been

included in bird counts in at least 14 counties during the year.

In 2003 unison calling between adults increased to 27 pairs around the state. There were 95 known sightings and fifteen documented young around the state. Dr. Jim Dinsmore provided a sightings file that included a number of counties where cranes were seen in recent years.

In Boone County a nesting pair had wintered at a farmstead south of Madrid. The pair performed nesting courtship displays and created a nest in the farmyard. Two eggs were laid in the spring. In April the nest and eggs were destroyed. Raccoons or dogs were suspected. In June a Sandhill Crane carcass was discovered in the vicinity of the nest near powerlines. The fate of this unconventional pair is unknown.

In 2004 cold, wet spring conditions hampered Sandhill Crane nesting in Iowa. Twenty-seven pairs of cranes were reported but only seven young hatched. However, most sites had summering cranes and additional pairs were reported near Belle Plaine, Chickasaw Co., and Olin in Jones Co. Jones County became fifteenth county documenting crane nesting.

Exciting news in 2005 includes successful nesting of cranes in Winnebago County. CCB Director, Robert Schwartz, reported a colt at Hogsback Wildlife Area. Also DNR Biologist, Bill Ohde, reported a new pair at Wiese Slough in Muscatine County that produced one young. Ric Zarwell, in Allamakee Co., reported four pairs with four young. Across the state 20 pairs were reported with nine pairs that successfully reproduced 13 young. Including Winnebago and Muscatine Counties, Sandhill Cranes have now been reproduced in 17 counties.

In 2006 a favorable nesting season has maintained our Sandhill Cranes nesting population at 17 counties. Two notable crane sightings occurred when Whooper Cranes were reported in Iowa. During spring migration five whoopers stayed over in Winnebago Co. A second flock of eight whoopers were discovered in northeastern Iowa. By early June all had left Iowa and returned to their home at Necedah National Wildlife Refuge in Wisconsin. In September three of the five Whoopers returned to Winnebago Co. As of 2005 there were only 336 whoopers in the wild and 135 in captivity.

Figure 12.1 Number of sandhill cranes observed during April surveys and independent reports of reproduction.

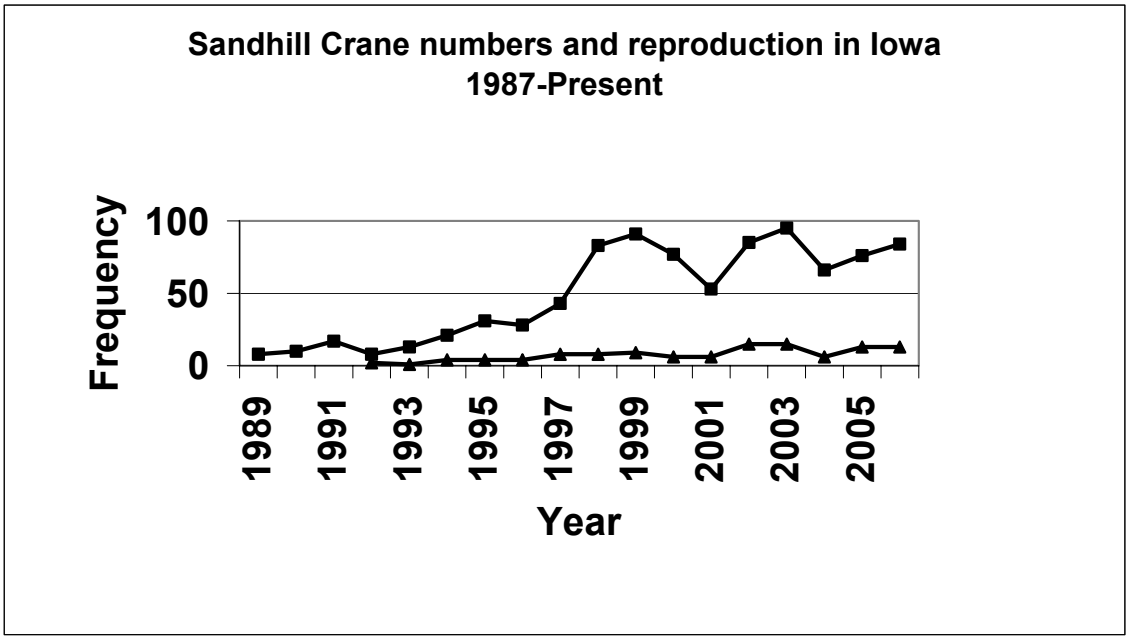
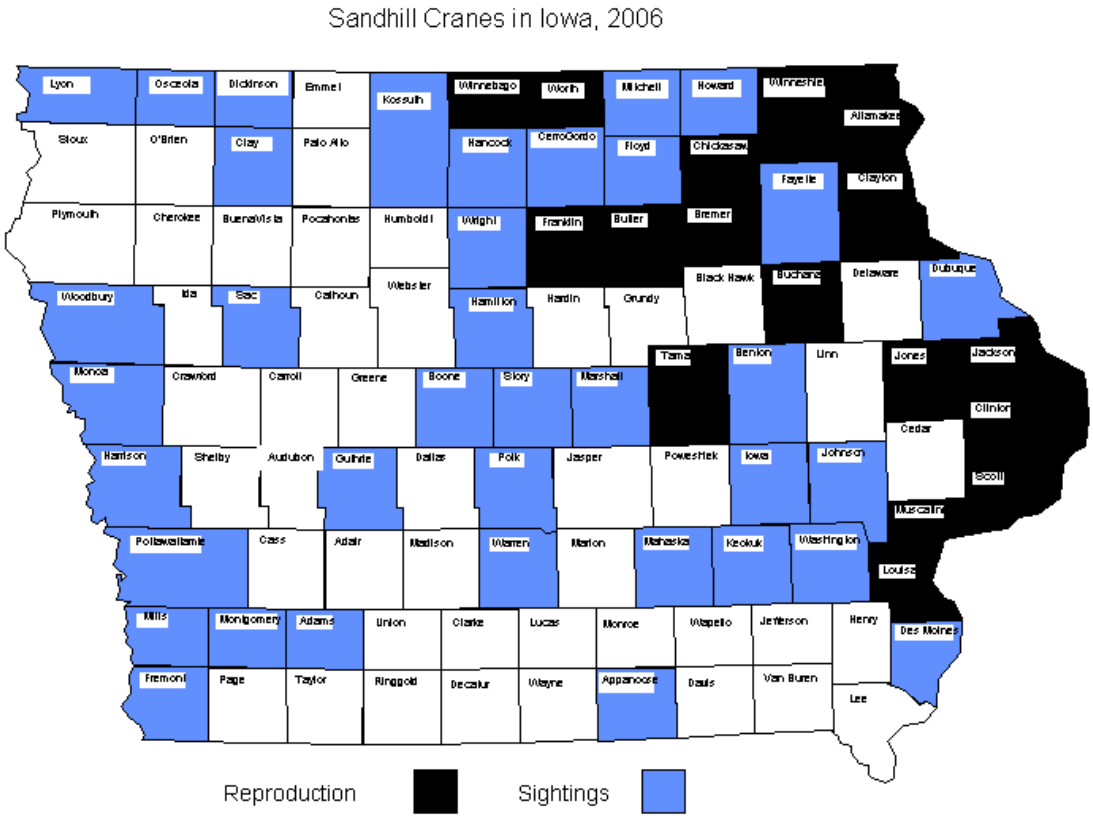


Figure 12.2 - Sandhill crane sightings and reproduction in Iowa.



BALD EAGLE RESTORATION

HISTORICAL REVIEW

When Euro-Americans first arrived in Iowa, it is likely that bald eagles nested throughout the state, particularly in the wooded edges of rivers, streams, and fish infested lakes. As forests were cut and the woodland habitat occupied by eagles was altered, eagle numbers declined. Direct persecution (mostly shooting) and changes in eagle habitat, particularly nesting habitat, appear to have eliminated the bald eagle as an Iowa nester by the early 1900s. Early records for the bald eagle in Iowa do not give us a good idea of how many nests there once were for this species, but we do know that eagles were "formerly common in Iowa and frequently nested in favorable localities" (Anderson 1907). Certainly early records reflected that notion, since there were records for nests in many counties throughout the state. There were four nests recorded for Allamakee County by Ellison Orr, with the last known active nest in 1864 (Allert 1939, Orr 1937). Spurrell (1917) reported that the last known active nest in Sac County was in 1871. At a long-occupied nest near Rowan in Wright County, the adult eagles were killed and two young were taken from the nest in May 1877 (Birdsall 1915). Perhaps the last nest documented near the turn of the century was in Jasper County in 1905, where two young eaglets were taken from a nest near Kellogg (Anderson 1907).

The passage of the Federal Bald Eagle Protection Act of 1940 was the first real effort to protect eagles, especially from shooting. The use of organochlorine pesticides, such as DDT, after World War II also severely devastated eagle populations (Broley 1958, Carson 1962). It was only after the banning of organochlorine pesticide use in this country in 1972 and the listing of the bald eagle for protection on the Endangered Species Act in 1978 that this species began to recover. The bald eagle was considered an extirpated species on Iowa's first threatened and endangered species list in 1977 (Roosa 1977), and it was not again expected to be seen nesting in Iowa.

MORE RECENT IOWA NESTING RECORDS

As improbable as it seemed, the bald eagle did nest in Iowa again. The first nest noted in over 70 years was located near New Albin on the Mississippi River floodplain in 1977 (Roosa and Stravers 1989). Two young were produced that first year (Table 15.1), but it was not until 1980 that another eaglet was produced from that nesting territory. In 1984, Dinsmore et al. (1984) considered the bald eagle a rare summer resident. It was in 1985 that a second Iowa eagle nest appeared, just three miles downstream from the first. That nest produced three young. During 1986, a third nesting territory appeared in Allamakee County on the Mississippi River, and a fourth occurred in Jackson County. The first documented nest away from the Mississippi River was found in 1987 along the Skunk River near Coppock in Jefferson County (Table 15.1). The following year there were eight active nests reported. Two more new nests were discovered away from the Mississippi River, one in Allamakee County and one in Fremont County near

Forney's Lake. A new nest was also found in Clayton County along the Mississippi River, and a nest in a huge cottonwood tree was reported by towboat captain, Pat Flippo, for Des Moines County near the mouth of the Skunk River.

As part of the USF&WS regional plan for bald eagle recovery, in 1981 Iowa established a goal of 10 active Bald Eagle nests by the year 2000 (Grier 1988). This goal was surpassed in 1991 when the number of active nests jumped to 13 (Table 15.1). Nest numbers climbed to 21 in 1992: Allamakee County now had 11 active nests; Clayton County had three; Jackson County had two; and five additional counties -- Jones, Benton, Iowa, Mahaska, and Winneshiek -- each now held one nest. Iowa's steady upward nesting trend continued. In 1993, the 32 active nests recorded quadrupled the number of nests found just five years earlier. During 1994, nesting progressed westward in the state into Blackhawk, Howard, Webster, Sac, and Buena Vista counties (Figure 15.1). Nesting pairs also continued to establish themselves in the southeastern portion of the state and frequented Linn, Clinton, Washington, and Lucas counties.

Each year more eagle pairs continued to adapt to Iowa's fragmented and highly used landscape. In 1995, the number of active nesting pairs climbed to 43 (Table 15.1), and eagle pairs had now nested in 23 counties on 14 river systems. The largest boost in eagle nesting numbers occurred during 1998, when 84 active nests were recorded in 33 counties. This increase of 22 nests from 1997 followed a mild winter in which a record of 1,737 bald eagles was tabulated in January 1998 during the Midwinter Bald Eagle Survey (Ehresman 1998). It appeared that some eagle pairs opted to nest in areas in which they were wintering, particularly in western Iowa. Nests were reported in eight new counties in 1998 and included Lyon, Sioux, Mills, Calhoun, Humboldt, Butler, Bremer, and Buchanan counties. With this latest tally, eagles had now nested in 42 counties (Figure 15.2) in association with 30 rivers and creeks (Table 15.2). The number of eagle pairs continued to grow, and by 2004, eagles have been reported nesting in 67. Adams, Henry, Poweshiek, Ringgold, and Shelby counties were the 2004 additions. During 2005, four more counties (Polk, Marshall, Story, and Kossuth) reported eagle nesting for the first time, bringing Iowa's eagle nesting county total to 71. Similarly, by July 2006, four more additional counties (Dickinson, Franklin, Boone, and Page) reported eagle nesting; there are now 75 counties that have documented eagle nesting (Figure 15.1).

PRODUCTION OF EAGLE YOUNG

As the number of active nests increased from 1977 to 1998, so did the number of young produced each year (Table 15.1). From zero to three eaglets were produced for each of the years from 1977 through 1985. For the next several years, a slow but steady increase in the number of nests occurred until 1990, when seven of the eight active nests successfully fledged 13 youngsters. For several years, there was an increase of about seven active nests per year, and in 1995, 58 young fledged from 31 successful nests. A significant increase was seen in the number of eaglets produced during the next year (Figure 15.3). Then, in 1997, a drop in the number of eagle young produced was noted, even though the number of active nests increased. Eagle pairs were back on track production-wise in 1998, and 47 successful nests fledged at least 82 young. There were 15 nests for which the nesting outcome was unknown in 1998, so it is likely that there were a number of fledglings that went unrecorded. For the years 1999-2001, recording eagle nesting activity for every nest became less of a priority for the Iowa Department of Natural Resources (IA DNR). Records were still kept for all nests reported, with an emphasis placed on documenting new eagle nests. However, data for nest activity and nest success is not nearly as complete as for years prior to 1999. Projected eagle nest numbers (based on number of new nests reported each year and average nest increase rate since 1995) is shown in Figure 15.3 for 1999-2005. The number of new eagle nests reported has averaged about 20 nests per year since 1999. In 2004, at least 28 new nests were documented, with an estimated 175 total active eagle nests. During 2005, an additional 25 new nests were reported, and it was estimated that there were 190 total active eagle nests. It appears that the rapid growth rate of eagle nesting may be beginning to taper off. Only about 15 new nests were reported during 2006, and there were an estimated 200 active bald eagle nests in the state this year.

Iowa eagles are very productive. Beginning in 1985, from the first time that there were at least two nests known, the average number of young per successful nest has never fallen below 1.5 eaglets (Table 15.1). The average for this same category for all 22 years is 1.7 young per successful nest. This compares well to data from four districts of the Upper Mississippi River National Wildlife and Fish Refuges. On the Mississippi River from 1986 through 1997, the number of young per active nest with known production averaged 1.4 eaglets (Nelson 1998). Iowa production is also higher than a compilation of several studies which indicated that a successful nest, on average, produced 1.6 eaglets (Stalmaster 1987). Of further interest is the fact that 13.6% of Iowa nests produced three young each. This is a high percentage if one considers that, according to Stalmaster (1987), for 3,893 occupied nests throughout North America in the 1960s and 1970s, only two percent produced three young each. In 1996 alone, 10 of the 40 (25%) successful Iowa nests produced three young each.

Table 15.1. Annual Bald Eagle production for Iowa from 1977 through 1998.

Year	No. of Active Nests	No of Successful Nests	No. of Nests with 3 Young	No. of Known Young	No. of Young/Successful Nest	No. of Counties With Active Nests
1977	1	1	0	2	2.00	1
1978	0	0	0	0	0	0
1979	1	0	0	0	0	1
1980	1	1	0	1	1.00	1
1981	1	0	0	0	0	1
1982	1	1	0	1	1.00	1
1983	1	1	0	1	1.00	1
1984	1	1	0	2	2.00	1
1985	2	1	1	3	3.00	1
1986	3	3	1	6	2.00	2
1987	4	3	1	6	2.00	3
1988	8	6	0	9	1.50	6
1989	9	7	1	11	1.57	5
1990	8	7	2	13	1.86	6
1991	13	9	4	21	2.33	8
1992	21	14	2	25	1.79	8
1993	32	18	0	27	1.50	13
1994	36	24	2	44	1.83	16
1995	43	31	5	58	1.87	16
1996	54	40	10	71	1.78	20
1997	62	42	1	64	1.52	26
1998	84	47	5	82	1.75	33
Totals	386	257	35	447	1.74	42

STREAMS WITH NESTS

Iowa Bald Eagles have nested along 30 different rivers and creeks since 1977, and 29 of those riparian corridors held active nests in 1998 (Table 15.2). The Mississippi River is still by far the most important waterway in Iowa to the survival of the Bald Eagle. It contained 32 active nests in 1998. Next in importance were the Upper Iowa and Cedar rivers with six nests each and the Missouri River with four nests. All other waterways held three or fewer nests, with the majority having one nest each. It will be interesting to see which river systems might gain in importance to nesting eagles in future years.

Table 15.2. 30 rivers and creeks associated with Iowa Bald Eagle nest sites in 1998

Name of river or creek	Number of active nests	Name of river or creek	Number of active nests
Mississippi River	32	North Raccoon River	1
Upper Iowa River	6	Raccoon River	1
Cedar River	6	Little Sioux River	1
Missouri River	4	Rock River	1
Yellow River	3	Boone River	1
Turkey River	3	Grand River	1
Volga River	3	Chariton River	1
Iowa River	3	English River	1
Maquoketa River	2	Robert's Creek	1
North Fork Maquoketa River	2	Buck Creek	1
Skunk River	2	Canoe Creek	1
Wapsipinicon River	1	Lytle's Creek	1
Shell Rock River	1	Bear Creek	1
Des Moines River	1	Whitewater Creek	1
East Branch Des Moines River	1	Crooked Creek (not active in 1998)	

PREFERRED NEST TREES

Another aspect of bald eagle nesting which is of importance is the the type of trees in which these majestic birds choose to nest (Table 15.3). Nest trees are typically stout for their height and have large crowns with an open canopy. The large crown provides an optimum site to build a large nest, and the open canopy allows these birds with seven-foot wingspans to land and take off without being impeded. The nest tree is usually alive, but the top of the tree is often dead or dying . Nest tree data presented here are from 1998 only, but they include both active and inactive Iowa nests. Data were not included for nests located on the Mississippi River floodplain in northeastern Iowa. It appears that the favored tree used for nesting in Iowa is the cottonwood (*Populus deltoides*). White pine (*Pinus strobus L.*) was next in importance. Perhaps the white pine would be even more significant as a nest tree if it were more abundant and if it occurred naturally in places other than northeastern Iowa. In Chippewa National Forest in northern Minnesota, the white pine is the favored nest tree holding 53% of all nests (Mathisen 1983). Several types of oak trees (*Quercus sp.*) contained a significant portion of Iowa's eagle nests. Since oak trees, in general, are more abundant on upland sites, it might be that, as eagles nest away from river bottomlands, there will be an increase in use of these trees as nest sites.

Table 15.3. Tree species used by Bald Eagles for nest sites in Iowa (from 1998 data)*

Species	No. of Active Nests	No. of Inactive Nests	Total Nests	Percent of Total Nests
Cottonwood	33	11	44	67.7
White Pine	7	2	9	13.8
Oak (sp.)	3	4	7	10.8
Ash (sp.)	1	1	2	3.1
Big Tooth Aspen	2	0	2	3.1
Silver Maple	1	0	1	1.5
Totals	47	18	65	100

*Does not include nests on the Mississippi River in northeastern Iowa

RECOVERY EFFORT

Bald Eagle Nest Survey: The Iowa Conservation Commission's (ICC), now IA DNR, first effort to enhance bald eagle recovery was the purchase of the property, near New Albin, where the first eagle nest in 70 years occurred. As eagle nests increased, IA DNR staff kept records of these nests to monitor nesting success. Until about 1995, most eagle nests reported on private land were visited by Wildlife Bureau staff in order to establish a good relationship with eagle nest landowners and assure the security of each nest site. Similarly, USF&WS employees have documented records for bald eagles nesting within the Mississippi River floodplain since the first Iowa nest was confirmed in 1977.

Midwinter Bald Eagle Survey: Beginning in 1983, ICC staff cooperated on a national Midwinter Bald Eagle Survey to assess the health of the greater bald eagle population. In cooperation with the National survey coordinator, USGS Raptor Research and Technical Assistance Center in Boise, Idaho, IA DNR Wildlife Diversity Staff continue to coordinate this survey today. Data from this survey indicate a dramatic increase in Iowa winter bald eagle numbers from 1983-2004 (Figure 15.4). An especially high count (2,493) during the winter of 2001 was related to harsh weather conditions and the subsequent concentration of eagles in count areas of the Mississippi River. Very mild winter conditions during surveys conducted in 2002 and 2003 are reflected in lower count numbers, which are still higher than any year prior to 2001. Cold winter weather again forced eagles south into Iowa during this last winter, and the 2004 survey results documented 4,432 bald eagles along Iowa's rivers; particularly along the Mississippi River.

Milder weather conditions during the January, 2005 survey resulted in eagles being more spread out, and a reduced total (from 2004 count) of 3,164 bald eagles was tallied. The mild winter weather trend continued for the January, 2006 survey, and only 2,592 bald eagles were counted within the state. Winter survey data is used for evaluating the delisting of bald eagles in the United States, and information derived from this survey across the country has been used for the upgrade of the bald eagle national status from Endangered to Threatened in 1995.

DISCUSSION

Undoubtedly there are several reasons why nesting Bald Eagles have staged a comeback in Iowa. One reason for the recovery may be related to this species' ability to pioneer into suitable nesting habitat. This was not only true of Iowa's first nest in seven decades, which appeared in Allamakee County, but it also became obvious in 1987 when a pair of eagles nested in Jefferson County along the Skunk River. It was further evidenced in 1988 when an eagle pair nested in extreme southwestern Iowa in Fremont County near the Missouri River. Another key element helping eagle recovery appears to be Iowa's close proximity to one of the more stable nesting populations of bald eagles in the continental United States. Three states to the north, including Minnesota, Wisconsin, and Michigan, presently have a combined total of approximately 2500 nesting pairs, which is about one-third of all nesting eagles in the lower 48 states. There is little doubt that Iowa's eagle population has benefitted from its neighbor states to the north. Even in 1998, when eagle nests occurred in 42 counties, over half of all Iowa's eagle nests could be found in four counties in the northeastern corner of the state (Figure 15.2).

An unanticipated factor that has helped bald eagle numbers recover is their adaptability. It appears that eagles nesting in the Mississippi River floodplain may be somewhat tolerant of boat traffic (McKay et al. 1995). Other instances indicate that some eagles are more tolerant of disturbance than others. There are now numerous nests located within several hundred yards of buildings, roads, and farm fields. One nest along the Upper Iowa River in Howard County is only about 100 yards from the bedroom window of very interested eagle nest watchers. The nest is located across the river and, so far, human activities have not negatively affected the nest's success. Grier (1988) explained that eagles' ability to tolerate human activity and nest close to buildings has . . . "broadened their amount of available habitat and living space."

THE FUTURE

Although the outlook for Iowa's eagle population is favorable, there are still factors that affect eagle numbers. Unmanaged logging continues to pose a threat to eagles, and the removal of large, mature cottonwoods along Iowa streams will limit where eagles can nest and find foraging perches**.** Two central Iowa eagle winter roost sites have been severely logged within recent years, and fewer eagles are being seen at both of these sites. Logging in the vicinity of eagle nests also can affect the nesting outcome. Even though there are strict

federal laws protecting eagle roost and nest sites against disturbance during their occupancy, cutting of roost trees of bald eagles during the time of year that eagles are not using them is not prohibited.

Lead poisoning is still a concern, as several eagles are found in Iowa each year, either dead or suffering from this problem. Five out of eight bald eagles found sick in Iowa and brought to wildlife rehabilitators between November 1998 and January 1999 suffered from lead poisoning. Where this lead is coming from is yet to be determined.

Despite current problems that face the bald eagle, its numbers continue to recover. In 1963, an Audubon Society survey found only 417 remaining bald eagle nests in the continental United States. It was a species headed for extinction. In 2000, that number was over 6,500 active nests. Although the bald eagle is still listed as an Iowa endangered species, it soon will be removed from the Iowa Endangered/Threatened Species list.

Iowa, which had no nests for over 70 years, in 2004 had at least 175 active nests. The enforcement of protective laws and a change in the public's attitude toward eagles have helped bring back this species.

Bald Eagle Appreciation Days: Iowa DNR staff have been involved with promoting the appreciation of bald eagles since helping establish the first event in Keokuk in 1985. There are presently at least 13 Bald Eagle Appreciation Days held in Iowa each winter to celebrate the existence of eagles, and between 20,000 and 25,000 people gather at these events annually. With the continuation of public support for bald eagle recovery, this bird's population should continue to increase.

ACKNOWLEDGMENTS

Our thanks to the many Iowans who have watched over our eagle nests, continue to help with winter eagle surveys, and provide information that better helps the different agencies protect and manage for this species.

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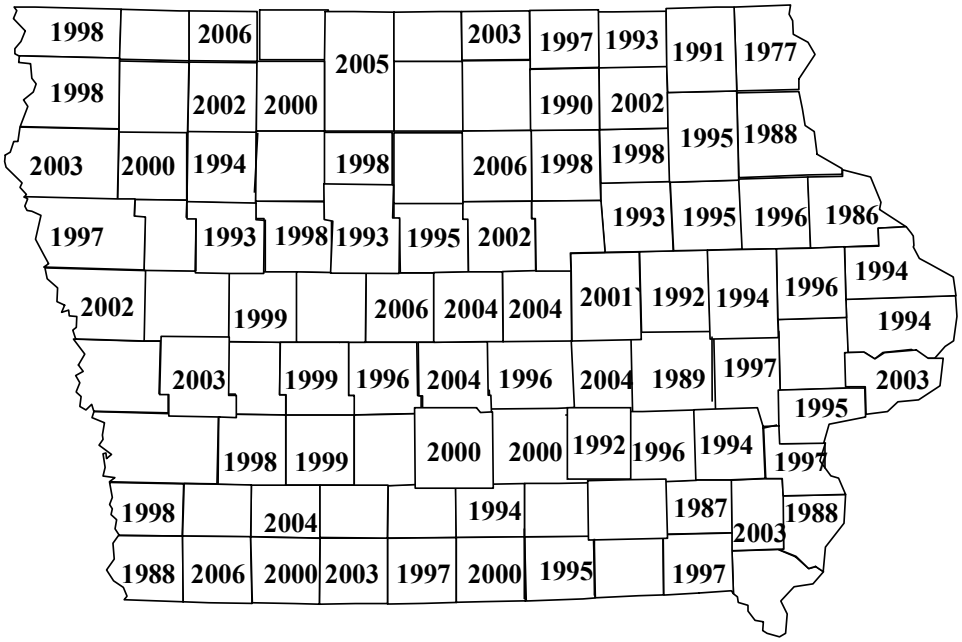


Figure 15.1. First year in which a bald eagle nest was reported for 75 counties, 1977 through 2006.

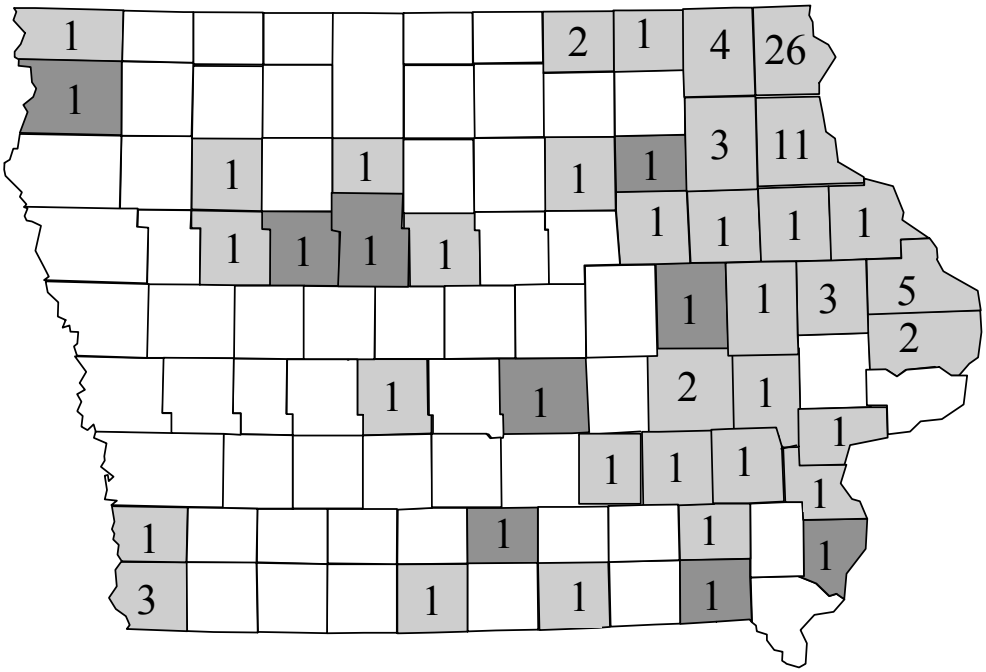


Figure 15.2. 33 counties in which 84 active Bald Eagle nests were found in 1998 ( ), and 9 counties with inactive nests ( )

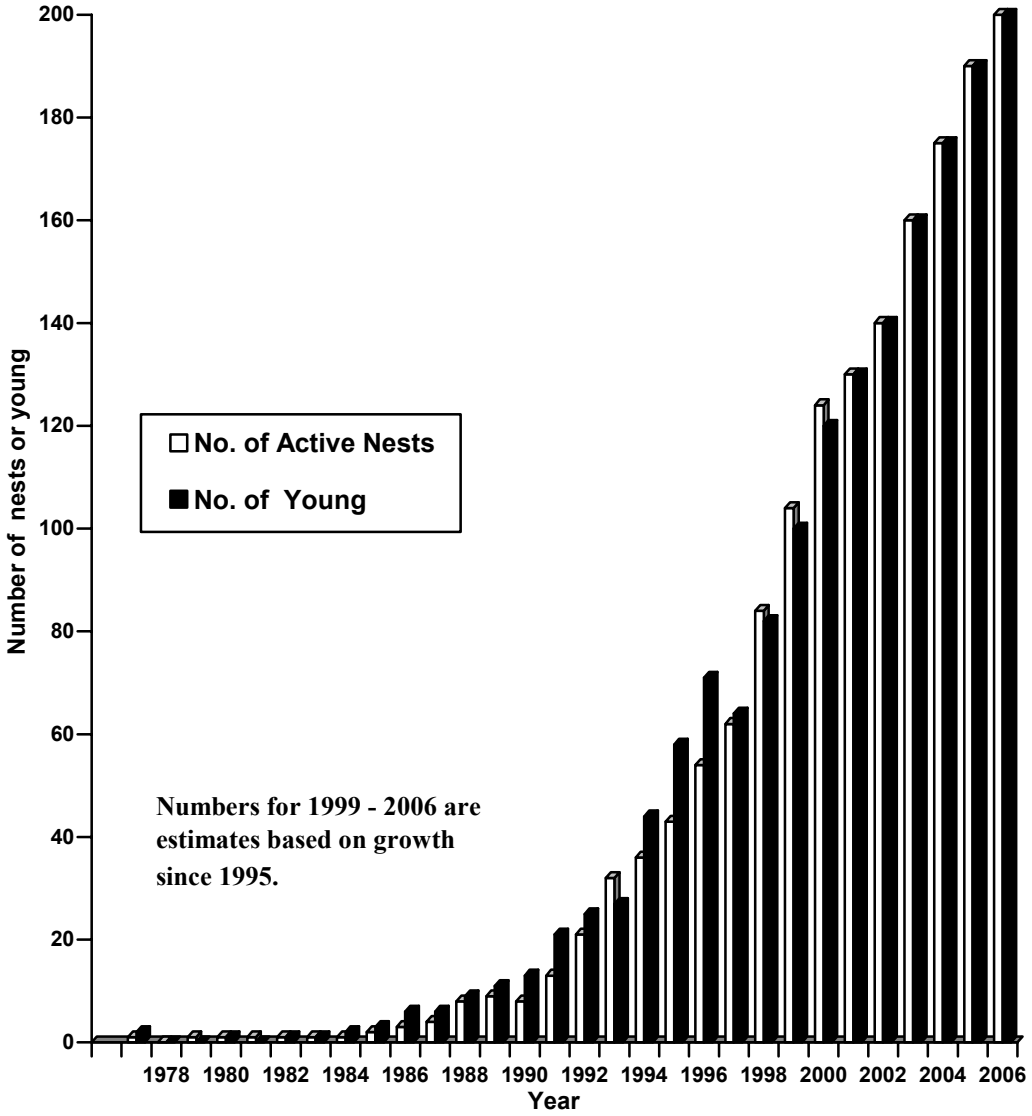
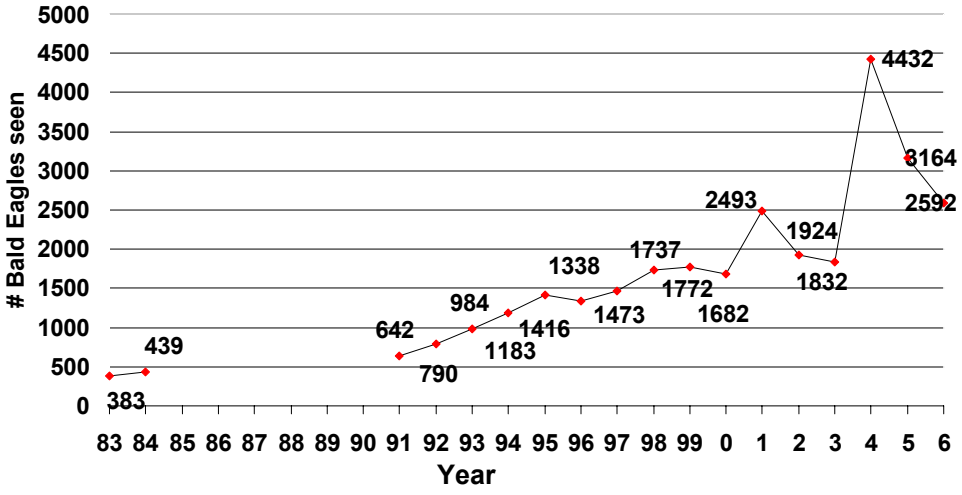


Figure 15.3. Number of Bald Eagle active nests and young produced in Iowa, 1977 through 2006.

Figure 15.4 Number of Bald Eagles seen during Iowa mid-winter survey 1983-Present



BOBCAT STATUS IN IOWA
2000 to Present

Prior to settlement, bobcats were found throughout Iowa. Historically they were the most abundant of Iowa's three native cat species - the bobcat, lynx and mountain lion/cougar. By the late 1800's, historical records mention little of bobcats in Iowa.

In the 1930's and 1940's small numbers of bobcats were reported in all corners of Iowa, although they were most numerous in the northeast corner of the state. Between the 1940's and mid-1980's, bobcats were infrequent in the western, southern, and eastern portions of Iowa.

During the past 2 decades, a number of bobcat sightings, roadkills, and occasional trapped bobcats have occurred.

Figure 13.1 shows that at least 71 counties now have known bobcats present within their boundaries. Several other counties probably have bobcats present but they have not been officially confirmed. An update of this information needs to be made to determine how many more counties have documented the presence of bobcats. Nebraska, Kansas, and Missouri show similar bobcat expansion and increases near Iowa's southern and western borders. In fact, Missouri now has a bobcat harvest season in the northern border of their state.

Dr. Jim Pease, Extension Wildlife Specialist, at Iowa State University, worked with graduate student, Anne Avery, on a more elaborate survey of bobcat sightings and the public's perception of predators in the state. Her M.S. thesis was completed in September, 2003.

The Iowa DNR delisted the bobcat from threatened status in September 2003. They are, however, given complete protection at the present time. An attempt was made to get a conservative bobcat harvest season in a portion of the state, implemented in the fall of 2006. That effort was thwarted because of politics.

Reproductive and population age structure data is being collected from all bobcat carcasses obtained from road killed and incidentally trapped animals. We will continue to monitor the increase and modern day expansion of bobcats in Iowa. I would predict that if the bobcat population continues to expand and increase currently at nearly 7 % annually, some portions of all Iowa counties will have bobcats presence within the next 5 years.

The Iowa DNR and Iowa State University are conducting a research study to monitor bobcat's movements, mortality, habitat use, and demographics in south-central Iowa. The first phase has been completed and a continuation of the first phase and an in depth study of bobcat genetics will be phase two. The DNR's Forest Game Biologist, Todd Gosselink, is the project leader. Dr. Bill Clark, ISU professor and graduate student, Stephanie Koehler, and represent the University component. A summary of the results to date is attached. The information collected from this study will be very useful in determining in depth population dynamics of Iowa bobcats and the future management of the species.

The bobcat population increase and expansion has been phenomenal during the last 20 years. Iowa's bobcat population is healthy enough and that is why the bobcat has been de-listed from threatened status and barring no major

disease or other population problems, an ultra conservative bobcat harvest season is imminent and could occur as soon as the fall of 2007.

Some suggested parameters for a conservative bobcat season are as follows:

(1) Only portions of southern and western Iowa would be open to harvest.

(2) Both hunting and trapping would be allowed.

(3) The season would open 8:00 a.m. the first Saturday of November and close January 31 or when the statewide quota of 200 harvested bobcats occurred.

(4) Only 1 bobcat per season per licensed fur harvester would be allowed.

(5) All bobcats would have to be tagged.

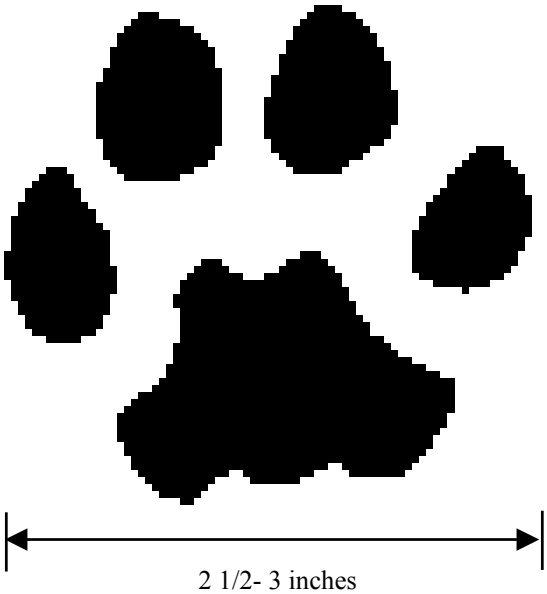
(6) Animals taken after the season closed or in excess of the 1 allowed per season, would have to be relinquished to the Iowa DNR.

(7) People possessing or taking bobcats illegally would be subject to a citation, fine, and possible revocation of their fur harvester license.

I would suggest that it is appropriate for the DNR to pursue the bobcat harvest season for fall of 2007. Be assured that such a harvest will be closely monitored to allow for a healthy, sustainable bobcat population to remain in Iowa.

Two websites to help with identification of bobcat tracks, listen to a bobcat growl, and a wealth of other information are: http://www.bear-tracker.com/bobcat.html and http://www.geocities.com/Yosemite/9152/bobcat-trackers.html.

Must reading for all interested in bobcats and Iowa wildlife: A COUNTRY SO FULL OF GAME by Dr. James J. Dinsmore



MOUNTAIN LION/COUGAR STATUS IN IOWA
2000 – present

The mountain lion/cougar (or puma, panther, and various other names) is the largest of the three wildcats documented in Iowa. The lynx and the bobcat were the other two. They probably occurred throughout the state, but nowhere in great numbers. The last historical record of a mountain lion/cougar in Iowa appears to be near Cincinnati, Iowa in Appanoose County, where one was shot in 1867.

Since the mid-1990's, the DNR has received several reports of large "cat" like sightings that lead some to believe that "free ranging" mountain lions/cougars may again be occurring in some portions the state. These "free ranging" mountain lions could be either escapees, or released animals, under private ownership or animals dispersing from western and southern states. THE IOWA DNR **HAS NOT 'STOCKED' OR INTRODUCED MOUNTAIN LIONS INTO THE STATE NOR IS THERE ANY CONSIDERATION OF DOING SO.** Southeast South Dakota, eastern Nebraska, northeast Kansas, and northern Missouri have reported increased mountain lion sightings during the past 5+ years.

Figure 1 is a map showing reported observations that appear to be credible, confirmed mountain lion/cougar tracks, 3 visual sightings, a road-kill near Harlan, which could possibly indicate that a very few wild mountain lions have roamed into the state. The road-killed animal in Jasper County was not reported to the DNR until after the roadkill near Harlan. This animal was exhumed and a close inspection of the remains showed the animal had been de-clawed, indicating that it must have been a captive animal at one time. The confirmed sighting in Ringgold County was observed by DNR personnel, and mountain lion scat was collected at that observation site. Two other visuals, one in Harrison County and one in Fremont County appear to be valid sightings. We have several instances of deer hunters seeing partially eaten deer covered by grass and other debris. This is somewhat typical of how mountain lions cache their prey but some bobcats will similarly cover their prey although older deer (those seen while hunting) would not necessarily be a prey target for most smaller sized bobcats.

In November 2004, a confirmed photo of a mountain lion was taken near Albion in Marshall County on a trail master, motion sensitive camera. In spite of the many other photos supposedly of Iowa mountain lions circulating the internet, this photo is the only validated photo of a free ranging Iowa mountain lion.

In November 2003, a mountain lion was shot in Sioux County near Ireton, Iowa. In January 2004, a mountain lion was shot south of Chariton, Iowa in Wayne County. DNA testing to determine origin of the 3 dead animals has been completed and results indicate that they are of North American origin. Theory has it that the only legal source of captive mountain lions/cougars should show DNA of South American origin, although more study is necessary before that theory can be substantiated. In February 2004, Dale Garner, DNR administrator, confirmed a mountain lion track south of Lucas in Lucas County. Since then, there have been numerous reports in 2005 and 2006, but none officially validated.

Currently the mountain lion has no legal status in the Iowa Code, thus

they are not given any sort of protection by Iowa law. The DNR requested that the 2002 legislative session consider legislation to designate the mountain lion as a furbearer, thus allowing the DNR to properly manage this species should their numbers increase. It was also requested that indiscriminate killing of these animals should not be allowed unless they are about to cause damage or injury to property or persons. The legislation passed the Senate with little controversy, knowing full well that the House would not consider the issue. The DNR was asked by the Governor's office not to pursue mountain lion and black bear wildlife status in the Iowa Code in 2006. Senator Mary Lunby of Cedar Rapids, however, introduced legislation to do such but again politics reined and the legislation did not get any consideration. "Politics" could make this legislation difficult but we hope to build a coalition to help get this enacted. Departmental rules associated with such legislation would have very minimal restrictions still allowing anyone with special concerns to destroy a mountain lion if it was going to injure or harm property or persons.

Professor James Mahaffy of Dordt College has created a website (http://defender5.dordt.edu/~mahaffy/mtlion/mtlionshort.htm) listing his assessment of mountain lion sightings in Northwest Iowa. He has recorded several sightings along the Big Sioux and Doon Rivers and into the eastern edge of South Dakota. Numerous other mountain lion sightings have been generated from these reports. We attempted to map only those most credible reports. However, since the spring of 2002, we have received so many reports, which agency personnel and others believe to be reliable, that it is becoming increasingly difficult to sort out which reports are reliable. Over 1,000 mountain lion sightings have been reported since 2000. Tracks, photos, video or other evidence is necessary before we can officially place them on our map. Although the DNR does not advocate indiscriminate killing of mountain lion, another road-kill, shooting, or a clear photo or video would help add credibility and confidence to all the mountain lion sightings that we are currently receiving.

Poor quality mountain lion sighting videos from Harrison, Taylor, and Fremont Counties still make it difficult to definitely determine whether these are actually mountain lion sightings but some DNR personnel believe they are. We have very little evidence of livestock depredation due to mountain lions/cougars. We have had reports of horses with claw marks (scratches) on the hind flank and a few reports of sheep and other livestock that some property owners believe were taken by mountain lions but validation of these are difficult. However, mountain lion researchers believe that white-tailed deer and other wild animals are the preferred prey.

Even so, predators are generally opportunists and if hungry they will take what is readily available. We have had at least 5 reports (1 in Carroll, 1 in Harrison County, 1 in Polk County, 1 in Jones County, and 1 in Calhoun County) from people who believe that they have seen mountain lion cubs. At this point most DNR personnel are skeptical of those reports. And of 3 killed in Iowa and others in the Midwest, they have all been reproductively immature males.

Credible mountain lion sightings and tracks are important to the DNR. Two excellent websites to help with mountain track identification are http://www.bear-tracker.com/cougar.html and http://www.geocities.com/Yosemite/9152/cougar.html. It is important to remember that all cat tracks are round is shape, with 4 toes and a heel pad that has 3 posterior lobes. Adult mountain

lion tracks are 4 inches or larger in diameter, where as bobcat tracks are nearer to the 2 1/2 to 3 inch range. All cats have retractable claws, thus the tracks they leave show no claw marks except in unusual circumstances.

When possible plaster casts of suspected tracks will aid greatly in their identification.

We will continue to monitor and attempt to sort and map reliable sightings, but because there are so many mountain lion sightings based on poor visuals and so few tracks found, they are increasingly difficult to substantiate.

SAFETY ISSUES:

The good news is that lions generally avoid humans. People are more apt to be killed by a dog than a mountain lion. Some safety do's and don'ts can be found at the Mountain Lion Foundation of Texas website, (http://www.mountainlions-texas.org/be_lion_safe.htm).

Here are some suggestions in the remote chance you have a mountain lion encounter:

(1) If small children are present, or if there are several people in your group, gather everyone very close together. Mountain lions are not predators of large groups.

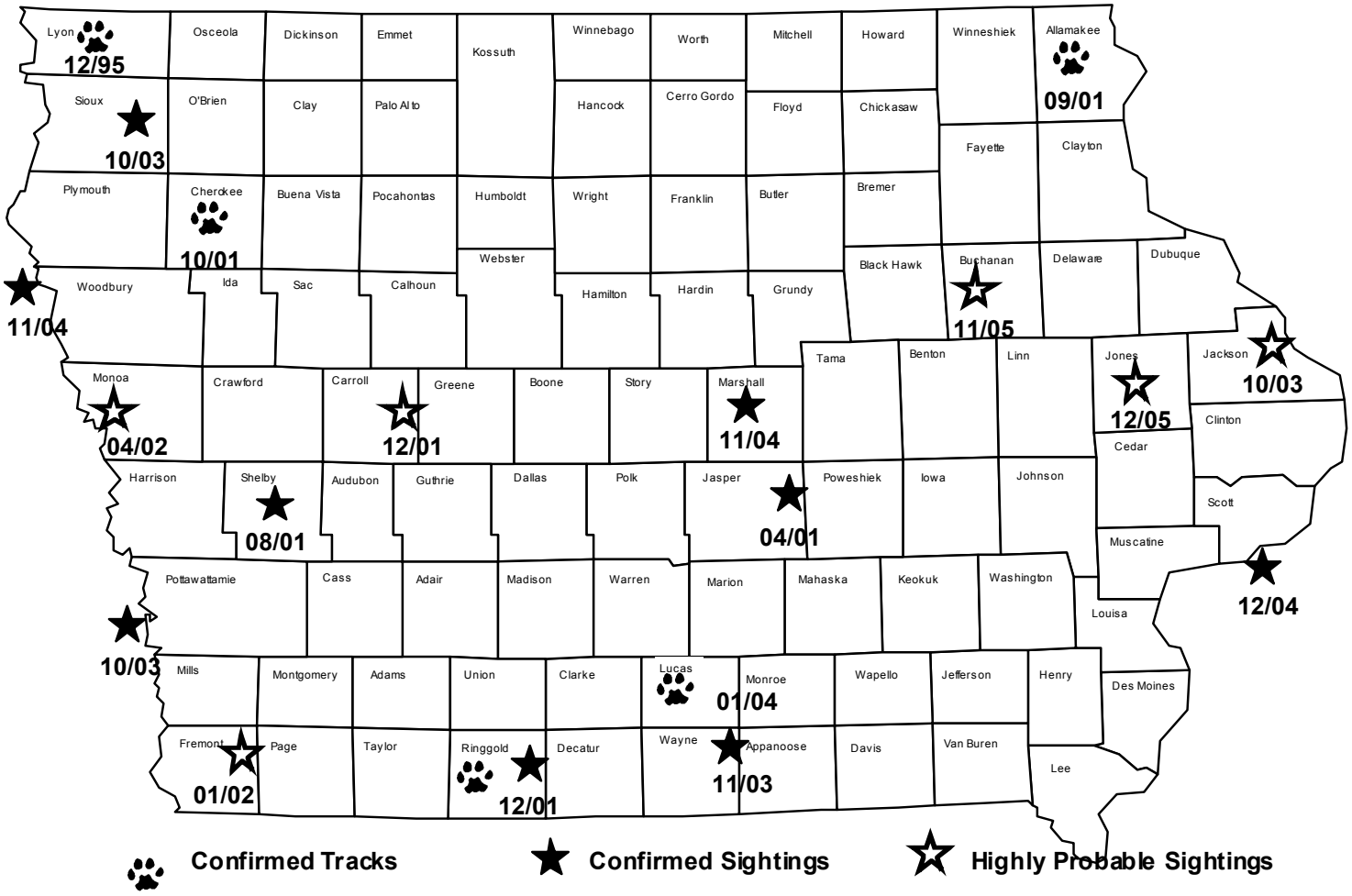
(2) Maintain eye contact if you sight a lion. Lions prefer to attack from ambush and count on the element of surprise.

(3) Hold your ground, wave, shout and attempt to look larger. Spread your jacket, coat or shirt above you head. Don't run, as running stimulates the predator reflex (just like dogs) to pursue anything that runs away.

In the past 110 years 66 people have been attacked by mountain lions, resulting in 61 injuries, 19 of which were fatal, and none occurred in Iowa.

In 2006 the DNR published a 4 fold brochure on the Status of Mountain Lions in Iowa - - Myth or Reality. The brochure is attached and also available on the Iowa DNR website.

Drafted by Ron Andrews, Iowa DNR, 1203 North Shore Dr., Clear Lake, IA 50428 Ph# 641-357-3517 Sept. 2006



Mountain Lion Reports 1995-2006

Numerous additional sighting have been reported, but are not mapped because of less than credible information

08-02-06

BLACK BEAR STATUS IN IOWA
2001 to Present

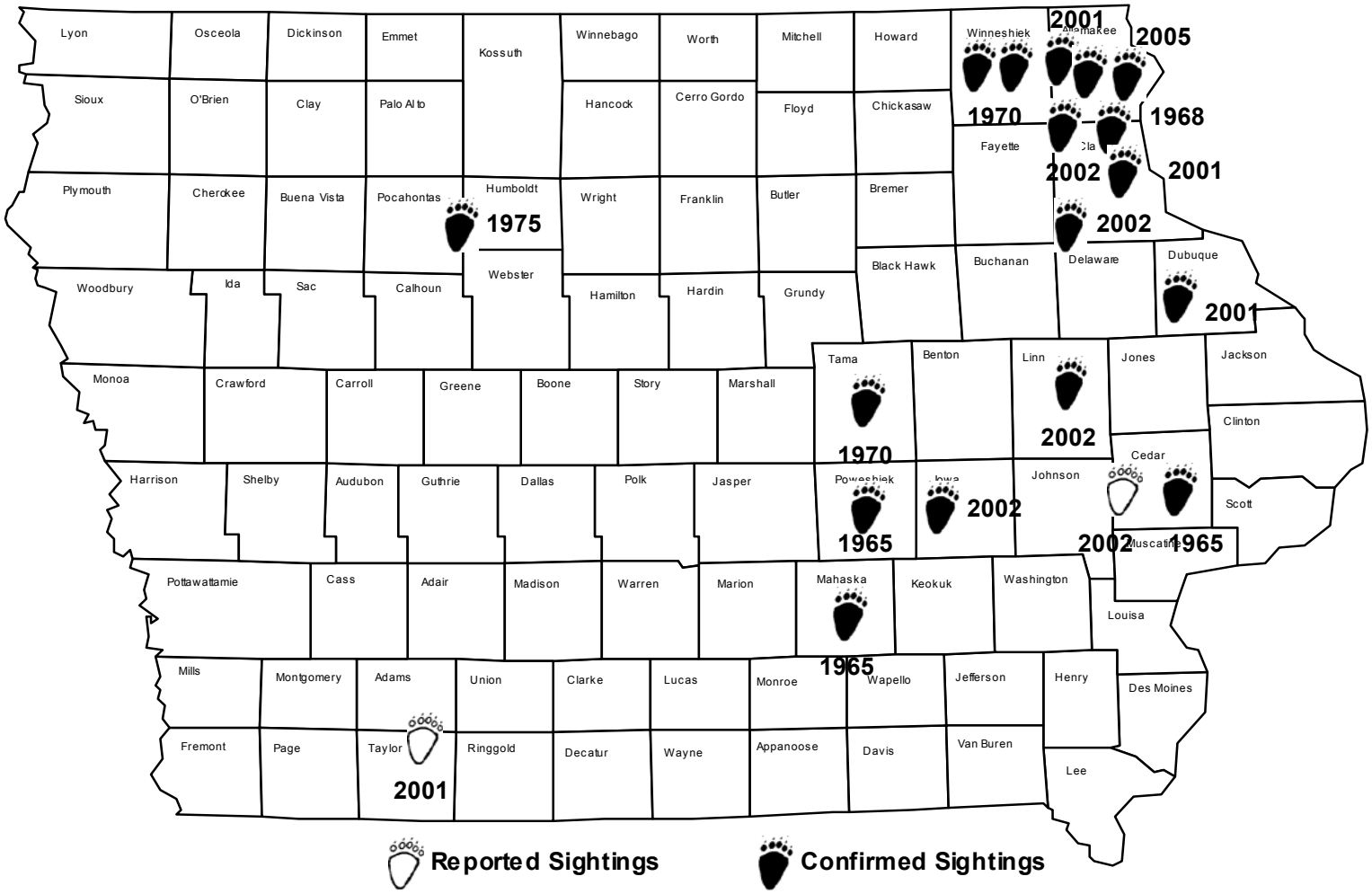
Black bears were one of the most recognizable and noticeable mammals encountered by Europeans as they settled North America. As settlers moved west, they generally killed any bears they encountered. Thus, bear numbers declined rapidly in many areas and disappeared from much of their former range. Most present-day Iowans probably associate black bears with some of our large national parks and do not realize that they once occurred in Iowa. When the settlers reached Iowa, they found them widespread throughout the state but higher numbers occurred where there were more woodlands. Bears were killed because they would damage crops and harass and kill livestock and because they were valuable both as food and for their hides. Several stories of the exploits of early-day "Davy Crocketts" in Iowa have been recorded in journals and diaries.

There are pre-1900 records of black bears from forty-eight Iowa counties, two-thirds of them from counties in the eastern half of Iowa. The last recorded historical bear sighting in the 1800s was one found near Spirit Lake in 1876. In the 1960s, black bear reports begin to occur in the state. Several of these reports were from captive bears that were either turned loose or were escapees. In the 1990s through the present, we began to field more reports of what appeared to be wild free ranging bears in the state. Currently, the nearest established wild populations of black bears are in Wisconsin, Minnesota, and southern Missouri. These populations are expanding their range towards Iowa from both the north and south. Figure 18.1 shows the most recent sightings of bears in Iowa. During 2002, there were at least 5 different fairly reliable black bear sightings. In 2003 and 2004, no reliable sightings have been reported. However during the spring and summer of 2005, the Iowa DNR received its first modern day black bear depredation complaint. In Allamakee County, a black bear reportedly was marauding several beehives in a few scattered locations foraging on both the bees and the honey. Black bear sightings are usually more reliable than mountain lion sightings because they do not necessarily flee when sighted, the tracks are very distinct, and they are not readily mistaken for other animals.

Black bears, like mountain lions, have no legal status in Iowa, however, the DNR is currently considering legislation to give both species legal status in the Iowa Code. The Governor's office has discouraged the DNR from pursuing legal status of the black bear. Senator Mary Lunby of Cedar Rapids introduced wildlife designation status for the black bear, but it did not get debated during the 2006 legislative session. Agricultural politics seemed to thwart this effort. If black bears continue to appear in the state, the effort to give them wildlife status needs to be pursued in the future. This would allow appropriate wildlife management to occur.

Much of the historical information in this report was paraphrased from Dr. James J. Dinsmore's book "A Country So Full Of Game—The Story Of Wildlife in Iowa".

Black Bear Status in Iowa



GRAY WOLF (TIMBER WOLF) STATUS IN IOWA
2001 to Present

Two large wolf-like mammals were frequently encountered by early settlers in Iowa. There are no known specimens preserved in museums from the state. Historians usually did not distinguish between the gray (timber) wolf, *Canis lupus* and the coyote, *Canis latrans* often called the "prairie wolf." Both species were greatly persecuted and only the coyote still occurs and thrives in the state.

Two different subspecies of gray wolf occurred in Iowa. The Great Plains wolf (a name that causes considerable confusion because the coyote which was often given a similar name, (the prairie wolf) was found over the western two-thirds of the state. The Great Plains Wolf followed the bison herds, feeding on the stragglers from the herd as well as other prey (Dinsmore, 1994). The other subspecies was the gray (timber) wolf found primarily in eastern Iowa, especially in the wooded northeastern corner of the state. Gray wolves were likely extirpated by the late 1800s. Bowles (1971) regards the last valid wolf record to be from Butler County in the winter of 1884-85. A timber wolf taken Shelby County in 1925 appeared to be wild, but it also could have escaped from captivity before being shot. Gray wolves often fed on the domestic animals that settlers brought to Iowa, and there are numerous reports of them killing chickens, pigs and sheep in Iowa. Gray wolves were fully protected in all the 48 states in August of 1974 under the Endangered Species Act (ESA) of 1973. In 1978, they were reclassified from endangered to threatened under the ESA in Minnesota. They are currently being considered for removal from the Endangered Species List. The US Department of Interior's Fish and Wildlife Service administers the ESA. The Fish and Wildlife Service is working to allow more state rights' management of gray wolves. Public review and input of this effort continues. Each state also has its categories for species of special concern.

Under the Iowa Code, the gray wolf is designated as a furbearer with both federal and state protected status. In recent years Minnesota wolves have been edging southeastward long the Mississippi River towards Iowa. In the mid-1990s occasional, lone wolves were appearing in the Winona, Minnesota region, approximately 75 miles from the Iowa border.

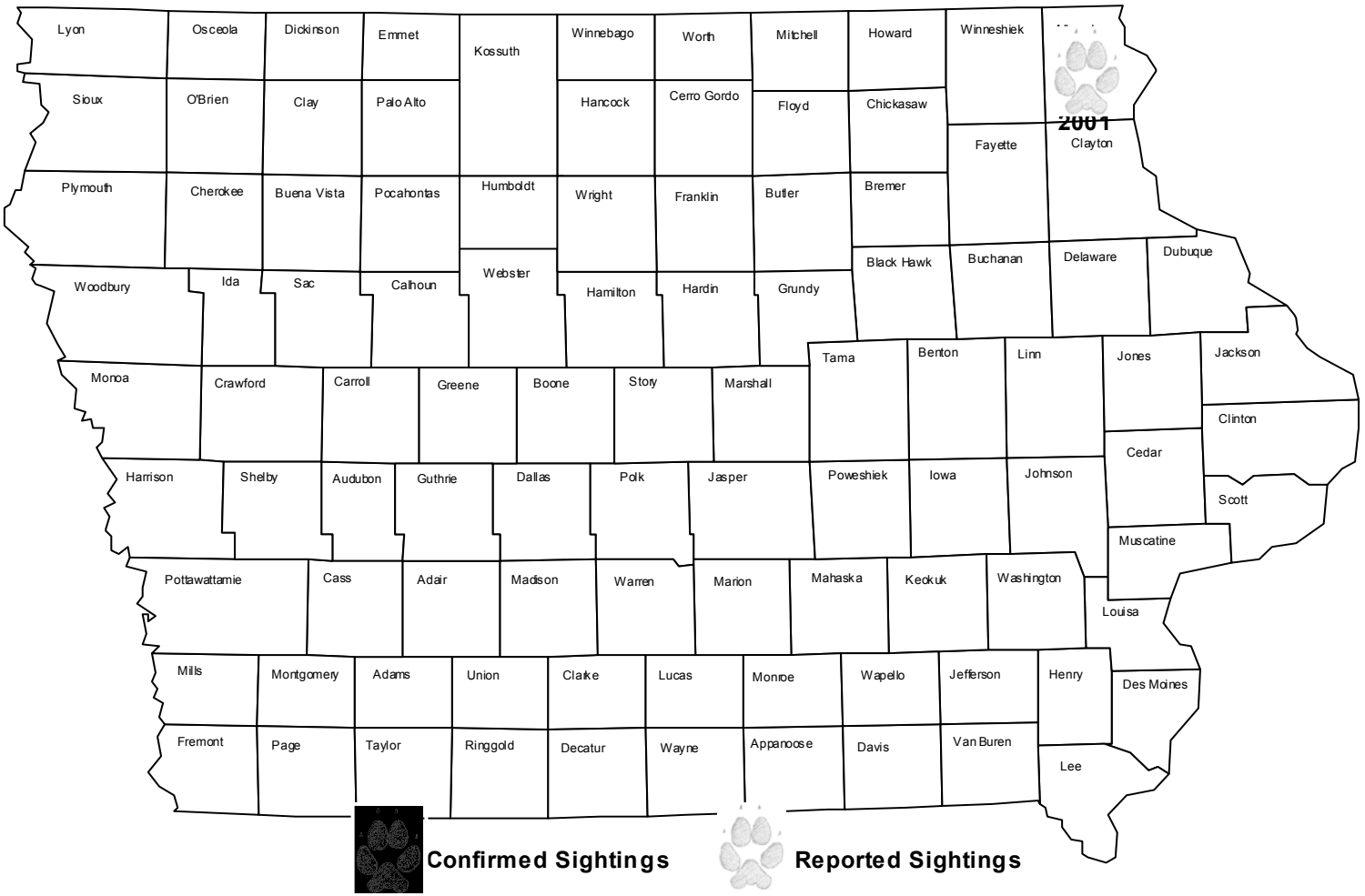
On November 15, 2002, a wolf was shot in Houston County, Minnesota, which is adjacent to Allamakee County, Iowa, the northeastern most county of the state. Rodney Rovang, manager of the Effigy Mounds National Monument near Marquette, Iowa indicates that he has observed occasional wolf tracks in and near Allamakee County over the past decade. Two known wolf-like animals were taken during the past year in Sioux and Guthrie County.

In October of 2000, a radio collared wolf from Michigan was shot and killed near Kirksville, Missouri. This animal traveled over 600 miles and could have actually moved through a portion of Iowa before being killed in Missouri. Kirksville is located about 50 miles south of Bloomfield, IA. Wolves are very mobile animals and as they

extend their range southward more will likely frequent Iowa.

In the likelihood that more wolves will appear in the state, an Iowa wolf draft management plan has been created and reviewed by the Commission. It will be revised and serve as guide as to how the DNR should respond to wolf concerns as wolf numbers increase and human/wolf encounters occur.

Status of Grey (Timber) wolves in Iowa



APPENDICES

1. **2005 Bowhunter Observation Survey**

2. **Mountain Lions in Iowa**

2005 BOWHUNTER OBSERVATION SURVEY

BACKGROUND

The Iowa Department of Natural Resources (DNR) conducted the annual Bowhunter Observation Survey during October 1 – December 2, 2005. This survey was designed jointly with William R. Clark, Professor at Iowa State University. The two primary objectives for this survey are to: 1) determine the value of bowhunter observation data as a supplement to other deer data collected by the DNR; and 2) develop a long-term database of selected furbearer data for monitoring and evaluating population trends. Bowhunters are a logical choice for observational-type surveys because the methods used while bowhunting deer are also ideal for viewing most wildlife species in their natural environment. In addition, bowhunters typically spend a large amount of time in bowstands: more than 40 hours/season is not uncommon.

METHODS

We believe that avid bowhunters are the best hunters to select for participation in the survey. This group would not only hunt often, they would also tend to have the most experience in selecting good stand locations, controlling or masking human scent, using camouflage, identifying animals correctly, and returning surveys. Participants for this survey were randomly selected from a list of all bowhunters who had purchased a license during each of the 3 years during 2002-2004 (i.e., avid bowhunters). We selected approximately 91 bowhunters from each county in an effort to distribute observations as evenly as possible across the state. In some of the more rural counties, the total number of hunters meeting the "avid" criteria was less than 91. When this occurred, all hunters within that county were selected and the deficit was overcome by randomly selecting additional hunters from nearby counties in the same climate region (9 regions statewide, approximately 11 counties per region). A total statewide sample of 8,991 bowhunters (approximately 999/region) was selected for participation.

RESULTS & DISCUSSION

Responses were obtained from 1,395 bowhunters who recorded their observations during 20,190 hunting trips, yielding 67,066 hours of total observation time (3.32 ± 0.02 hours/trip; mean ± 95% CL). Bowhunters reported a median of 14 trips during the 63-day season. Regionally, the number of bow hunting trips (and hours hunted) ranged from 1,723 (5,516 hours) in northwest Iowa (Region 1) to 2,874 (9,448 hours) in northeast Iowa (Region 3). The raw survey response rate was 15.5%.

Observations were standardized for each of the 12 species to reflect the number of observations per 1,000 hours hunted in each of the 9 regions. In addition, 95% confidence limits were calculated for each estimate. Precision among estimates for common species, such as deer, wild turkeys, and raccoons, was good: confidence limits were within ±15% of the estimate. However, for less common species, such as badgers, bobcats, gray fox, and otters, the uncertainty associated with the estimate was quite large and occasionally exceeded the estimated value.

The number of hunters who cooperated with the survey was less than what we had anticipated, but we are hopeful that more bowhunters will participate in this survey once they realize the importance of this information. Data obtained from the bowhunter observation survey will become more valuable after additional years are added to the dataset. With more years of data, we will be able to examine population trends for each selected species within each of the regions. For this reason, we expect to continue this survey into the future.

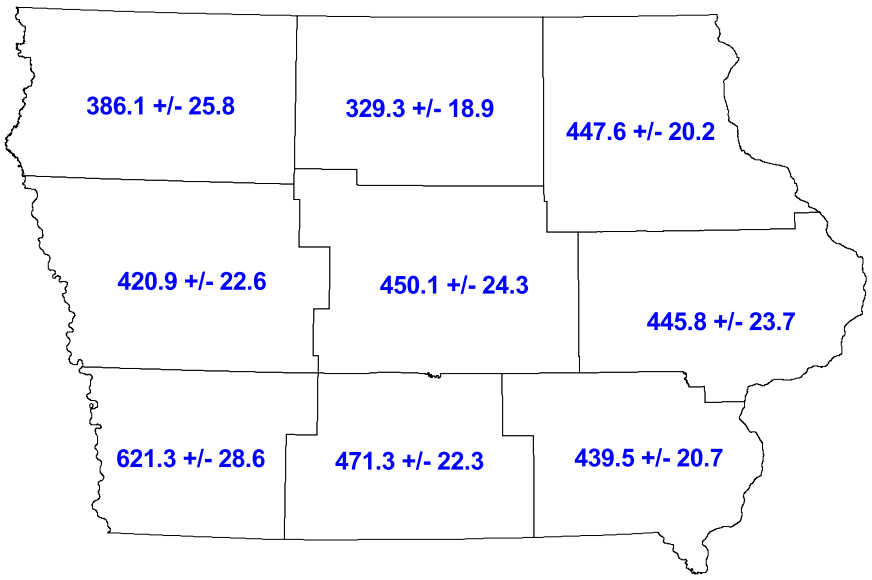
When looking at the following charts, we caution against making comparisons between regional estimates for any species. Any differences in observation rates between regions could be related to differences in many factors such as population size, habitat, topography, land use, or any other factor affecting the sightability of animals. For each of the selected species, any differences between regions are NOT entirely related to regional differences in population size.

The DNR thanks all hunters who participated in the 2005 Bowhunter Observation Survey, and hopes that all hunters who are selected for this survey will participate in the future. Iowa's bowhunters are the best group of hunters to provide this observational information, and their participation in this survey will play a major role in the conservation of these wildlife species in the future. The volume of information they provided could never be duplicated by the staff of biologists, technicians, and conservation officers of the Iowa DNR. The success of this survey will continue for only as long as the bowhunters continue to provide valuable data.

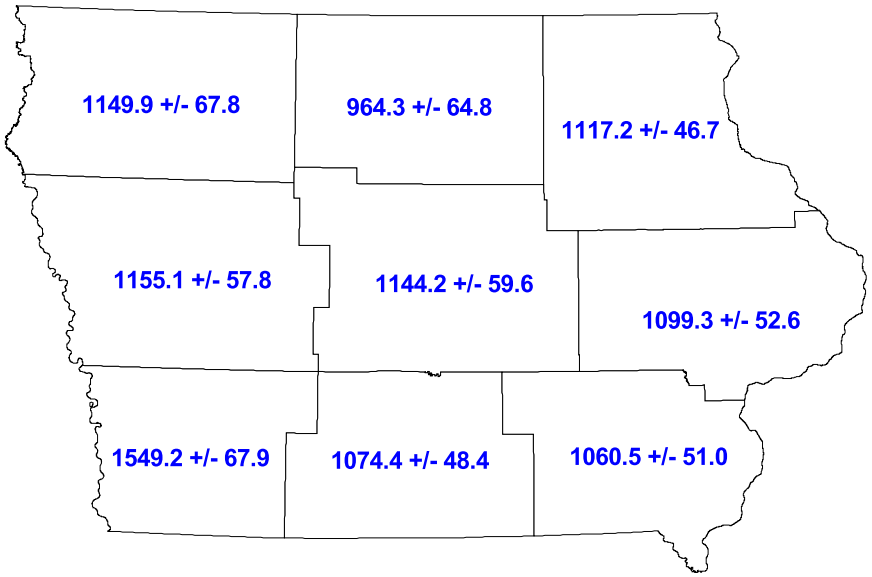
2005 Bowhunter Observation Survey

Observations per 1,000 Hours Hunted

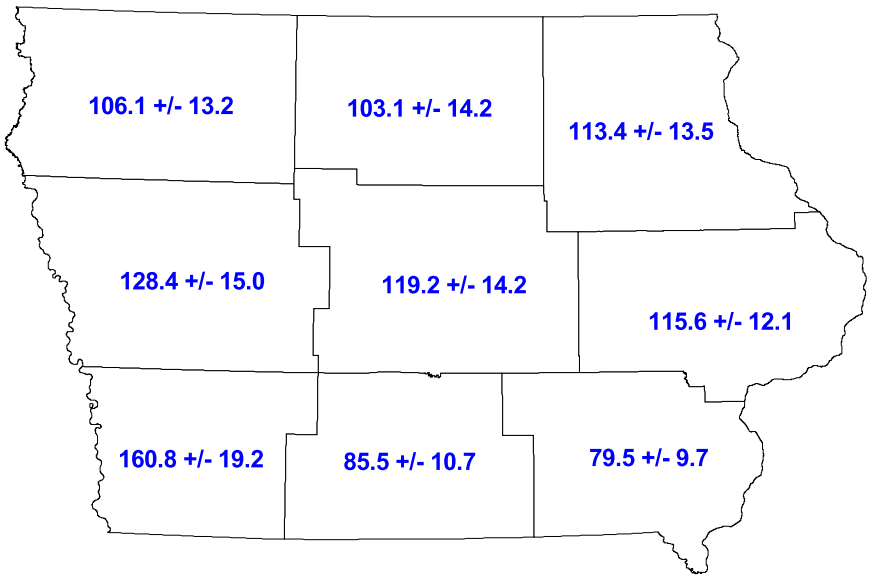
Iowa Department of Natural Resources



Deer - Antlered



Deer - Antlerless

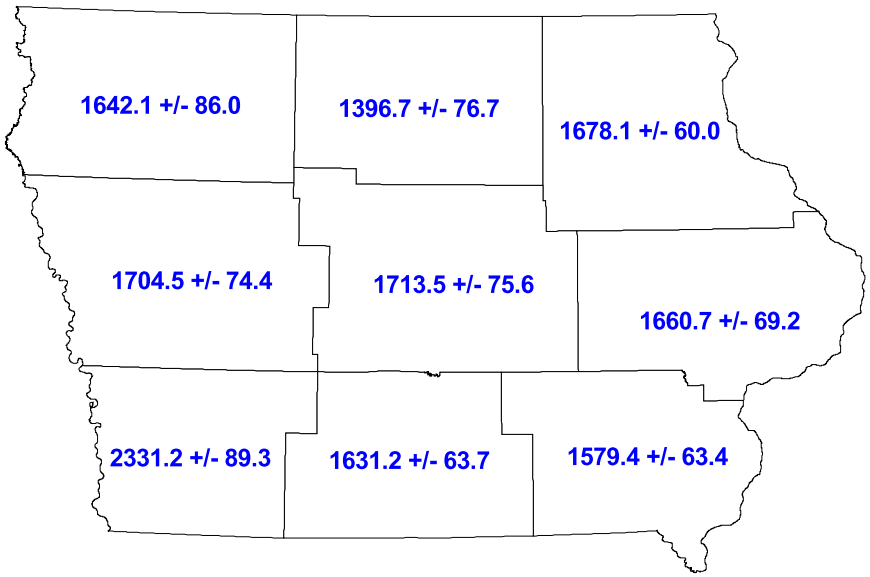


Deer - Unknown

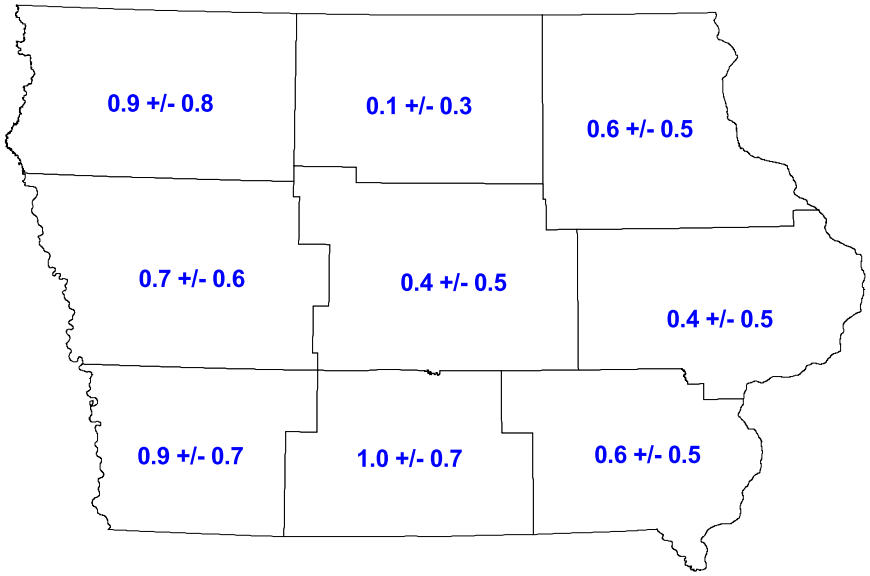
2005 Bowhunter Observation Survey

Observations per 1,000 Hours Hunted

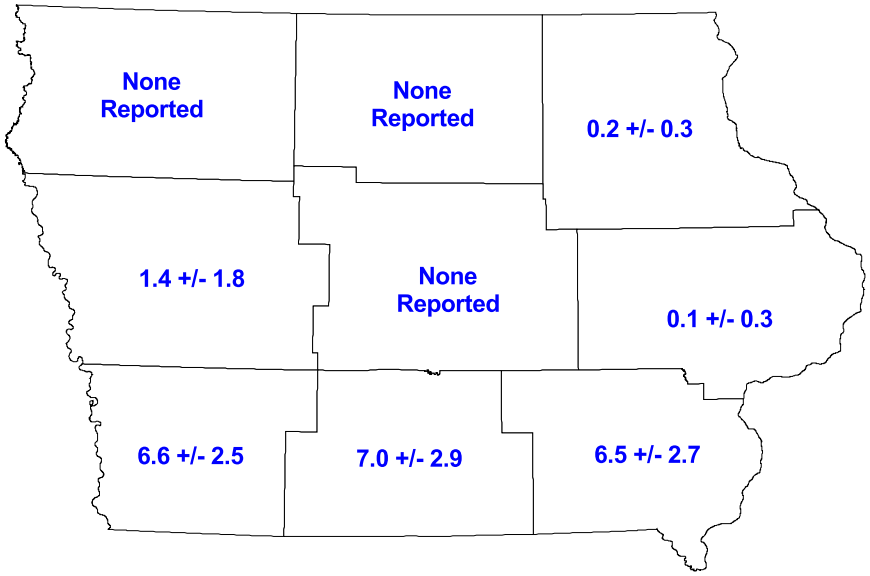
Iowa Department of Natural Resources



Deer - Total



Badgers

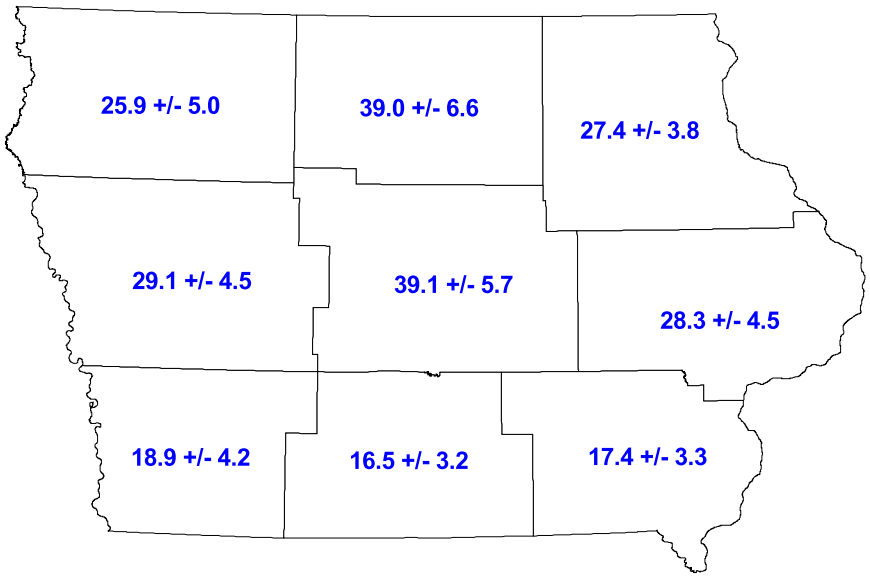


Bobcats

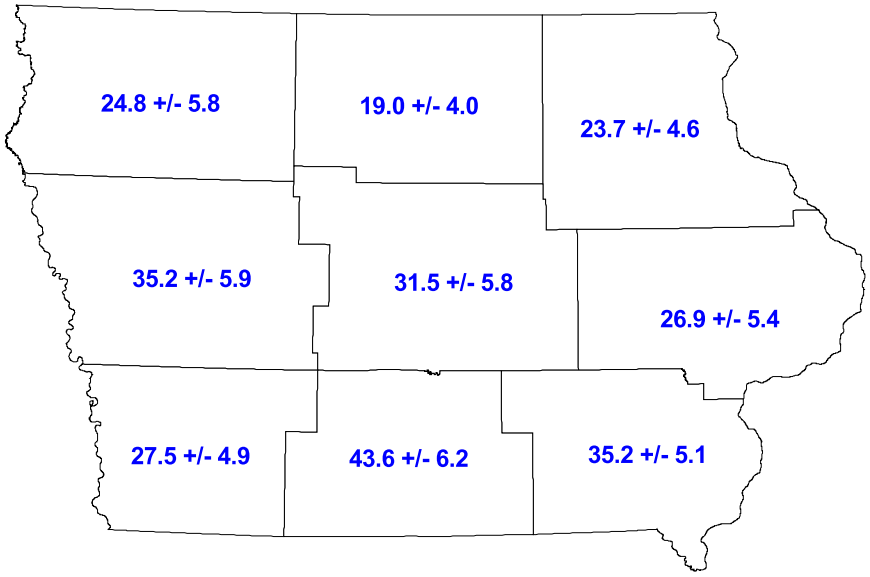
2005 Bowhunter Observation Survey

Observations per 1,000 Hours Hunted

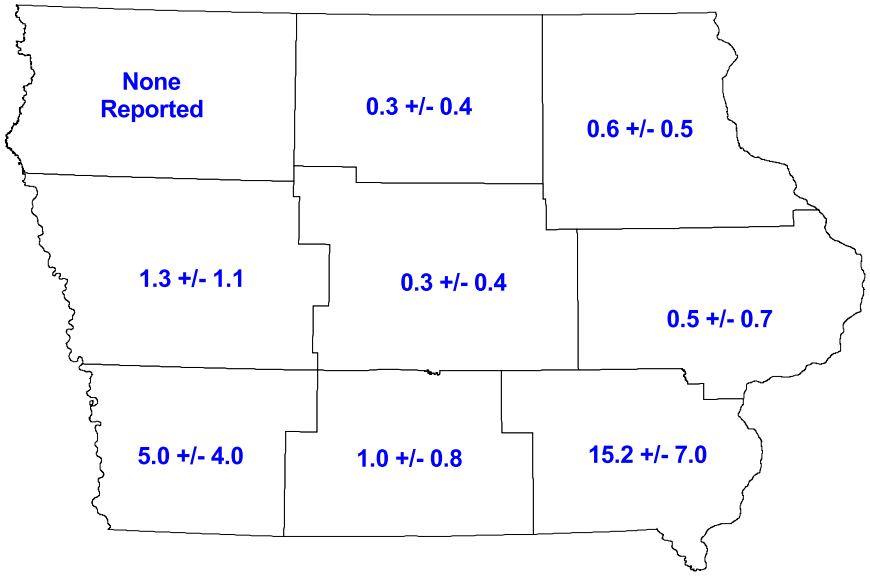
Iowa Department of Natural Resources



Cats



Coyotes

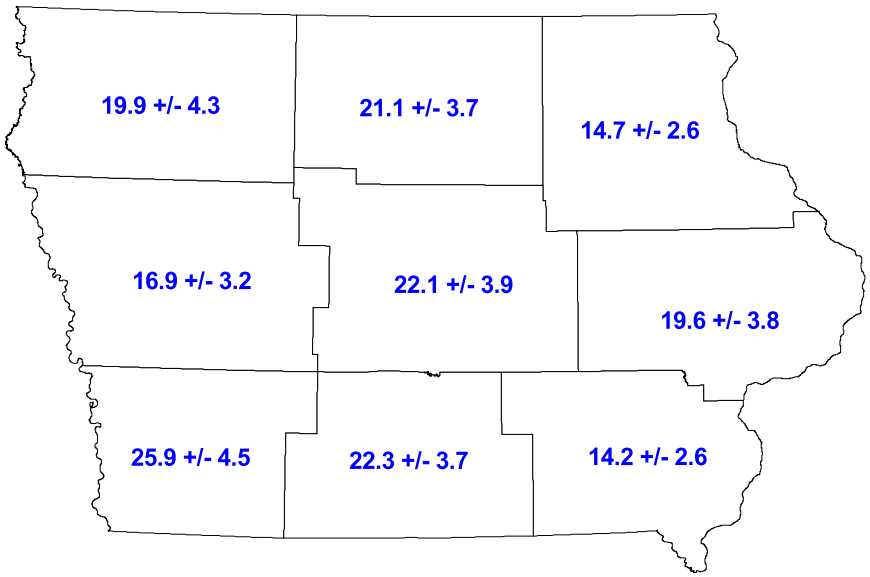


Gray Fox

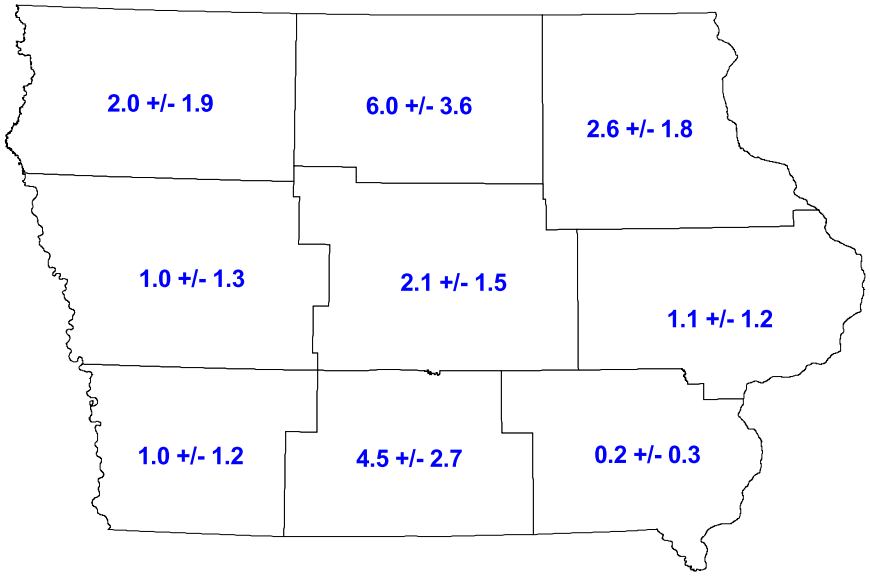
2005 Bowhunter Observation Survey

Observations per 1,000 Hours Hunted

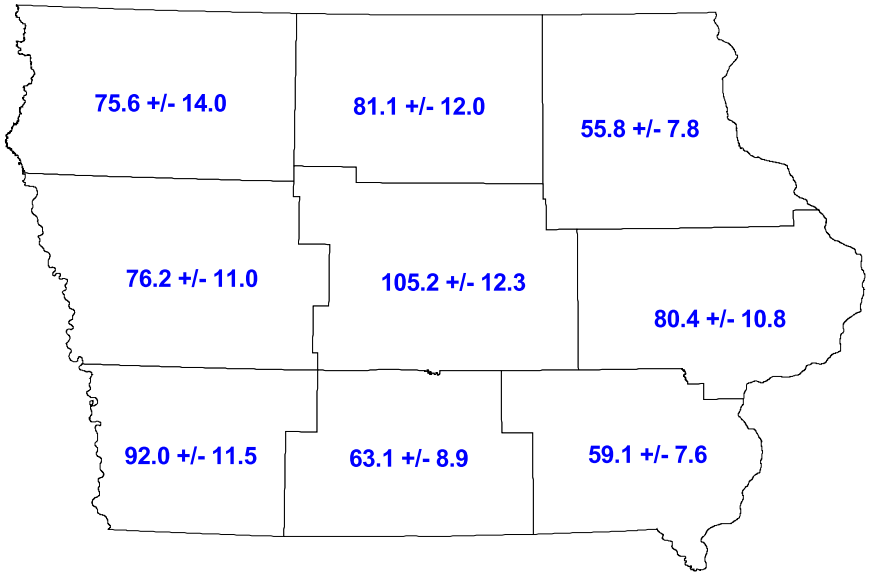
Iowa Department of Natural Resources



Opossum



Otters

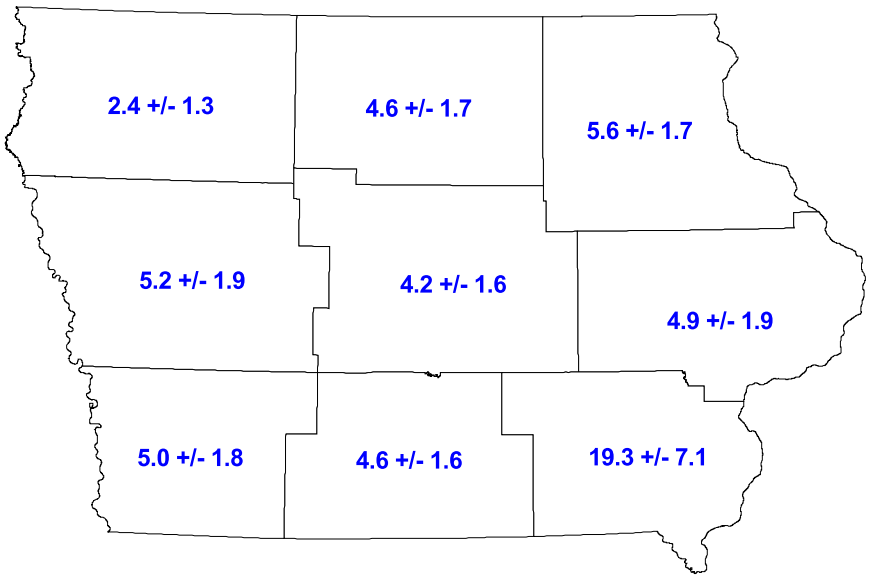


Raccoons

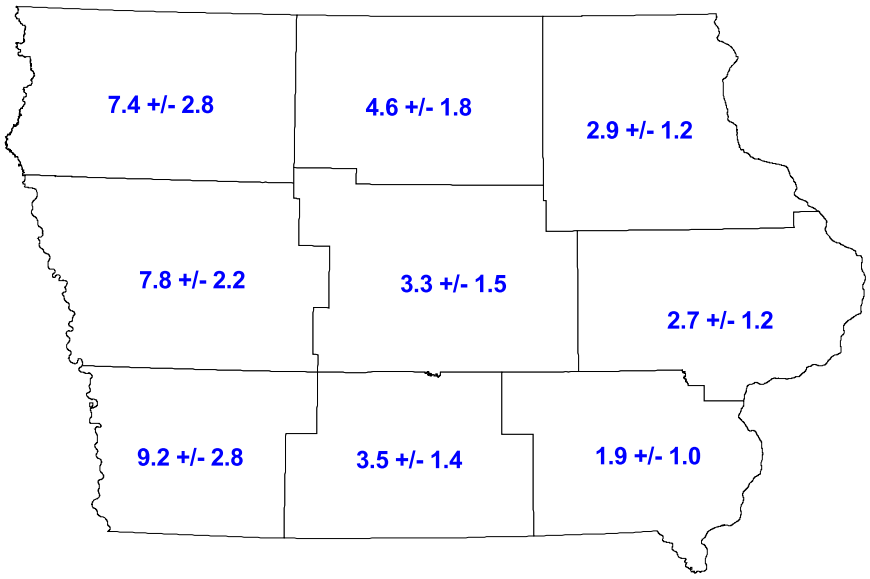
2005 Bowhunter Observation Survey

Observations per 1,000 Hours Hunted

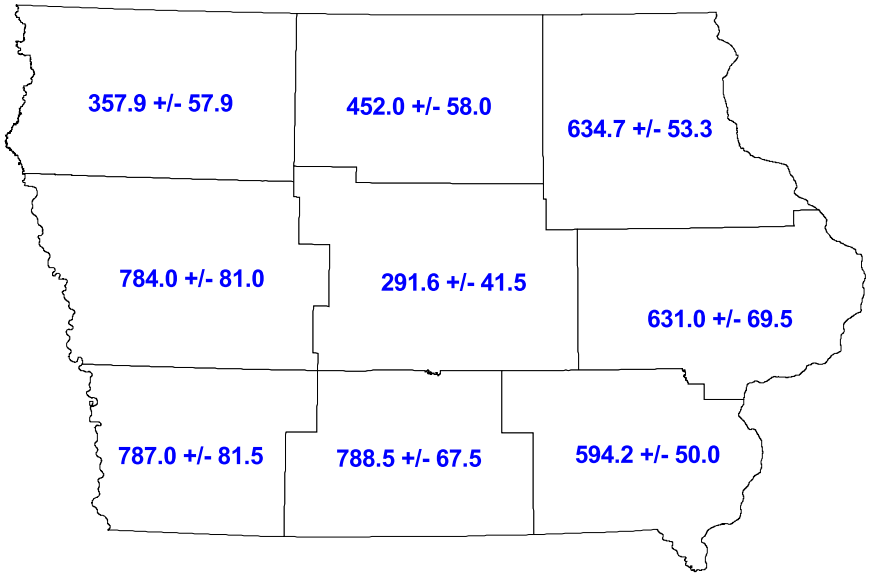
Iowa Department of Natural Resources



Red Fox



Skunk

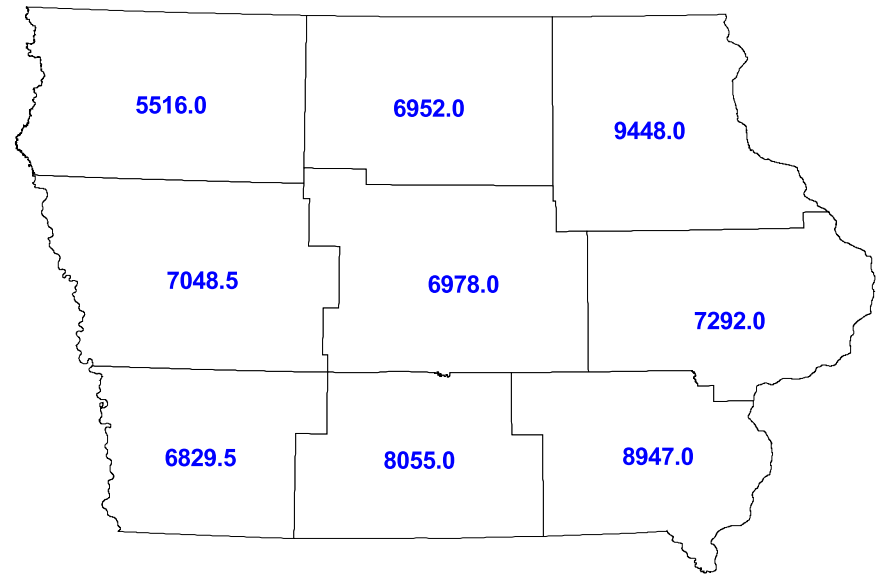


Wild Turkeys

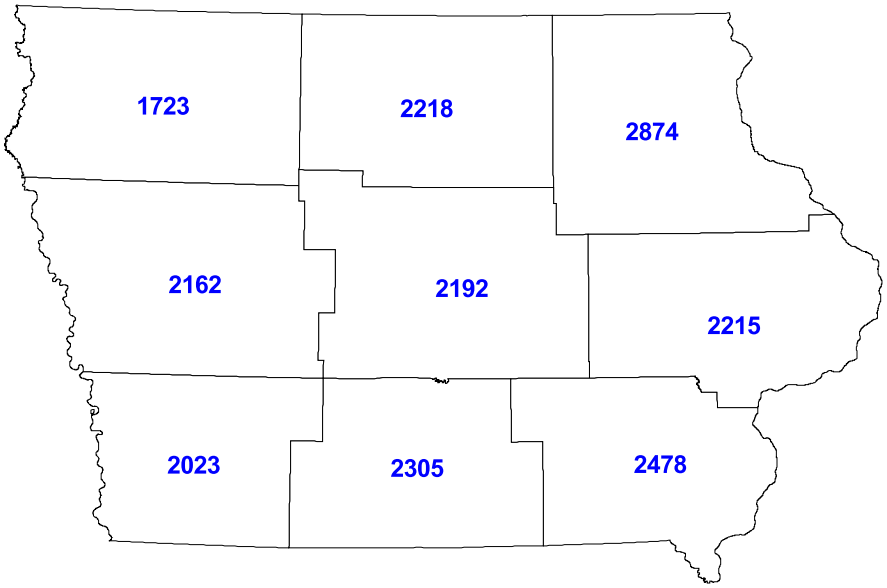
2005 Bowhunter Observation Survey

Observations per 1,000 Hours Hunted

Iowa Department of Natural Resources

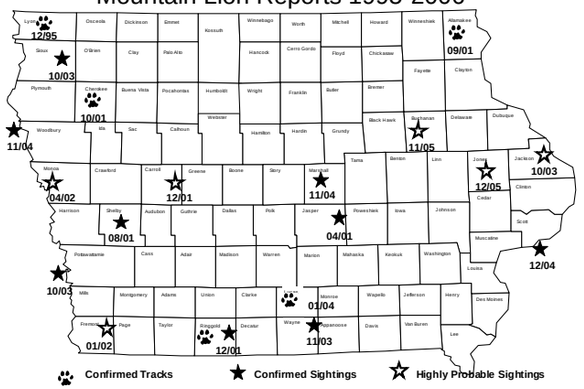


Hours Hunted



Hunting Trips

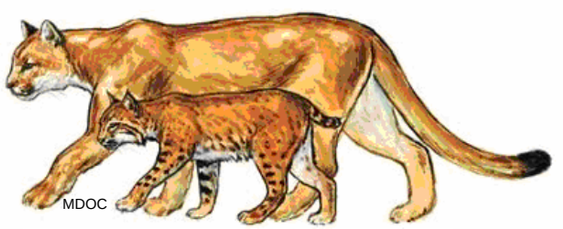
Mountain Lion Reports 1995-2006



CURRENT STATUS OF MOUNTAIN LIONS IN IOWA

Mountain lions have no legal wildlife status in Iowa. That means that they can be taken and possessed by anyone at anytime as long as legal methods and means are used to take the animal. Mountain lions and black bears are not listed in the Iowa Code as designated wildlife species, because they were extirpated before fish and game legislation became prominent. The pioneers did not see their presence of any value to their own way of life so basically persecution by humans brought their demise. In the late 1990's, the DNR began to receive several reports of mountain lions in the state. In midsummer 2001, we received enough reports that we felt it appropriate to make a news release stating the possibility of the presence of a few free ranging mountain lions in Iowa. Two weeks after we made the first announcement that there may be a few free ranging mountain lions in the state a road kill occurred near Harlan in late August, 2001.

Since that time, 2 more mountain lions have been shot and one actual photo taken by a trail master motion sensitive camera. The DNA results of the 3 dead mountain lions, as well as the lack of worn claws or broken teeth, indicates that all 3 dead animals in Iowa are of wild western origin. Numerous other fake photos of so called Iowa mountain lions are circulating the internet. We have also had 6, what appears to be mountain lion tracks in the state. Over 1000 mountain lions have been reported to DNR personnel since 2000 but most have no substantial evidence to back them up Numerous additional sightings have been reported, but are not mapped because of less than credible information. Strong evidence consists of a photo or video of the animal, photo of its track, a scat or animal dropping, or some sort of DNA evidence. In the western states, where mountain lions have been present since settlement, between 85% and 95% are considered mistaken identity. In Iowa, it is likely that over 95% of the reports are mistaken identity. Usually mountain lions are mistaken for yellow lab or shepherd dogs, bobcats, feral house cats or deer. Many reports occur at night, in very poor lighting conditions, poor weather conditions or at very far distances


MDOC


Lowell Washburn

Bobcats are often mistaken for their larger mountain lion relatives. They share many physical and behavioral traits. The mountain lion have a long tail (2½ -3 feet), while the bobcat have a short tail (less than 10 inches). Bobcats are 3 feet in length, while adult male mountain lions are 7-9 feet. Mountain lions weigh 90-160 pounds, while bobcats weigh 20-30 pounds. Bobcats tend to be darker brown, with lighter belly fur and spots while mountain lions tend to be a more uniform brown, tawny color. Although difficult to see at a distance, bobcats have tufts on their ears and facial cheeks. Yellow Labrador and German Shepherd dogs have different physical features with less massive shoulders and hindquarters, a longer furred non-cylindrical tail, with longer fur over the rest of the body. Two legislative efforts have been made to place the mountain lion and black bear in the Iowa code as designated wildlife species, but in an agricultural state like Iowa, it soon became very political and failed both times. This effort, however, does need to be explored and pursued further within the constraints and limits of the tolerance of human kind. Besides the possibility of mountain lions dispersing from western and southern states, there are privately owned mountain lions that could have either escaped or been released. In order to have a privately owned mountain lion, a permit must be obtained from the State Dept. of Agriculture. Several states bordering Iowa have also reported the same scenario. Only young reproductively immature males have shown up in surrounding state as either road killed, shot, or in one instance a capture animal in Omaha, NE.

CONTACTS FOR REPORTING MOUNTAIN LION SIGHTINGS

Even though Iowa Code does not list the mountain lion or black bear as designated wildlife, the Iowa Department of Natural Resources is the logical agency to report killed mountain lions. It is very valuable to the DNR to collect as much scientific data from any dead mountain lion that turn up in the state. If a mountain report can be substantiated with strong evidence (video, photo, photo of track or DNA material), the DNR should also be contacted. Information on where to contact your local DNR personnel can be found via the Iowa DNR website at www.iowadnr.com or via the telephone information directory. It is important that the DNR obtain as much information as possible to further manage the possible presence of mountain lions in the state. Before we visit the site, we do try to validate the observation with telephone conservations.

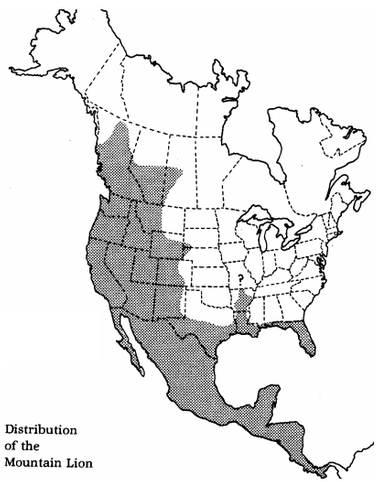
MOUNTAIN LIONS IN IOWA

MYTH OR REALITY?

Iowa Dept. of Natural Resources
1203 North Shore Drive
Clear Lake, IA 50428
Office (641) 357-3517
Cell (641) 425-5088
www.iowadnr.com

HISTORY

Mountains lions are often times referred to as cougars, pumas, panthers, painters, and catamounts. They are the largest of three wildcats historically documented in Iowa. The lynx and the bobcat are the other two. The mountain lion probably occurred throughout the state, but nowhere in great numbers. The last historical record of a mountain lion in Iowa appears to be near Cincinnati, Iowa in Appanoose County where one was shot in 1867.



Distribution of the Mountain Lion

DESCRIPTION

The mountain lion is a very large, slender cat with a small head, small rounded ears that are not tufted, very powerful shoulders and hindquarters, and a long, heavy, cylindrical tail. Adults are 6-9 feet in length including the tail which is 2½-3 feet in length. Males weigh 140-160 pounds and females weigh 90-110 pounds.

The mountain lion is grizzled gray to cinnamon tawny brown in color, and the last 2 inches of the tail are black.

BIOLOGY

Mountain lions are usually 3 years old before reaching reproductive maturity and usually have young (kits) at 2 year intervals. Kits can be born any time throughout the year but the peak period is summer. They will average 2-3 kits per litter and kits have brown spots on a buff color. Adults are very capable of swimming. Mountain lions can readily climb trees to escape dogs or obtain food. Female home ranges average 90 square miles while male home ranges average 300 square miles. Longevity is 12-20 years, but only a few live longer than 12 years. Mountain lions have an interesting social hierarchy. Dominant males have their harem of females and occasionally young males will challenge the dominant male for females. The younger males usually are forced out and leave the area, basically becoming nomads of the landscape, most likely searching for the presence of females. Mountain lions can move several hundred miles in a very short period of time. . **ALTHOUGH RUMORS WILL CONTINUE**, **BE ASSURED, THE IOWA DNR HAS NOT AND HAVE NO INTENTION OF RELEASING MOUNTAIN LIONS IN IOWA.**

FOOD HABITS

Mountain lions favorite food items are small mammals and deer. Like all predators they are opportunists and will also take any small mammals or birds. They rarely take livestock. They are ambush predators, taking large prey by a bite on the back of the neck or throat. They sometimes will carry a prey item to cover and forage first on the liver, heart and lungs. If they cannot consume the entire kill all at once, they will cache it (cover and camouflage) and return later to feed again. Mountain lions prefer fresh meat and once the cached food items become tainted, the rest is left for scavengers such as coyotes, turkey vultures, and crows to feast upon.

WHAT TO DO IF YOU HAVE A CLOSE ENCOUNTER WITH A MOUNTAIN LION

In the past 150 years, 19 U.S. human fatalities have occurred from mountain lion attacks. Fortunately, none have occurred in Iowa. Generally a mountain lion will sense human presence before humans know they are in the area and the mountain lions will quickly vacate the area. However, if one has an unexpected rare encounter with a mountain lion (we anticipate this will rarely happen in Iowa, because there are so few animals in the state) the following is recommended:

1) Savor the moment, as you will be one of the few lucky people to see a mountain lion in Iowa in well over a century.
2) DON'T RUN! Running will stimulate certain animals to chase you (like a dog that wants to bite you, especially if you run).
3) Stand tall, look big, puff up, lift your coat over your shoulders.
3) Take control of the situation. Scream loudly, throw objects.
4) Gather children in close and slowly back away keeping your eye of the animal.
5) If attacked, fight back vigorously with sharp objects and poke the eyes of the animal.

Urban sprawl into mountain lion country in the west has caused more human encounters with mountain lions. People in the western states that have been attacked are usually unaware of mountain lion presence and are usually cross-country skiing, jogging, or biking. Again the animal is probably surprised by the presence of these folks and the fast movement away from the mountain lion stimulates the animal to chase the fast moving person and sometimes attack.

THE FUTURE OF MOUNTAIN LIONS IN IOWA

The mountain lions will remain difficult to manage both from a biological and political standpoint. It is doubtful that the mountain lion will ever have much presence in Iowa. First of all there is some question that Iowa has little to offer in the way of actual good mountain lion habitat. The tolerance or intolerance of humans will dictate whether they will ever be able to get a foot hold in the state. Some sort of legal status in the Iowa Code will be necessary. In the meantime, their possible presence in Iowa has generated considerable excitement both pro and con and only time will tell whether they once again will become designated wildlife in the state.